EXAMINING OF GATEWAY THEORY IN DRUGS ADDICT PATIENT

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ABSTRACT

Drug and substance abuse, including tobacco and alcohol, are a cause of deaths. The global demand for drugs has not been substantially reduced and so some challenges exist in the implementation of the drug control system, in the violations generated by drug trafficking of illicit drugs, in the fast evolving nature of new psychoactive substances, and those in national legislative measures, which may result in a violation of human rights. Throughout the world of narcotics trafficking, world heroin consumption (340 tons) and seizures represent an annual flow of 430-450 tons of heroin into the global heroin market. People experiment with drugs for many different reasons, and many of them first try drugs out of curiosity, to relax and have a good time, visibility from friends and peer encouragement, enhance athletic performance and activity, and/or to ease problems with prolonged stress, anxiety, or depression. They probably start from smoking to hard drugs, which cannot be controlled when addicted, which leads to drug abuse. The Gateway Hypothesis was first proposed by Denise Kandel in 1975 in her article “Stages in Adolescent Involvement in Drug Use”, which entails the idea of the logical sequence that users of hard drugs (cocaine and heroin) begin with licit substances (alcohol and tobacco) to marijuana and ends with harder illicit substances. This study was to examine the gateway drug theory in order to determine which drug (alcohol, tobacco, or marijuana) is the actual “gateway” that leads to additional substance use in patients. The cross-sectional studies were used and data were collected, in which the calculated numbers of the sample size were 440 cases. The questionnaires were supplied to drug addict patients at Princess Mother National Institute on Drug Abuse Treatment. The reliability of the values were calculated to be greater than 0.7. Data were analyzed by using descriptive and inferential statistics. P value < 0.05 is considered statistically significant.

The results showed ages of between 18-56 years old. Age of onset was 17 years old. This result confirmed the gateway theory, in which 3 patterns of the gateway were found respectively as follows: Cigarette - Alcohol - Methamphetamine (27.0%, P value < 0.05), Cigarette - Alcohol - Marijuana (18.6%, P value < 0.05), Cigarette - Methamphetamine - Crystal Ice (10.2%, P value < 0.05). Research found that knowledge and attitude are not statistically and significantly associated with the pattern of cigarette - alcohol - methamphetamine.

In conclusion, this is the first study on patient abuse that shows the gateway theory. The present study examined the extent and ordering of licit and illicit drug use. The typical gateway sequences of patients were cigarettes prior to illicit drugs. While previous studies have consistently documented that the use of an earlier substance in the gateway sequence predicts progression to use of later substances. The recommendations from the studies were focusing on drug prevention in Thai children.

KEY WORDS: GATEWAY THEORY /PATTERNS OF THE GATEWAY DRUGS

97 pages

ศึกษาทฤษฎีประตูด่านแรกในผู้ป่วยยาเสพติด
EXAMINING OF GATEWAY THEORY IN DRUGS ADDICT PATIENT

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บทคัดย่อ

ยาเสพติดเป็นสาเหตุสำคัญของการเสียชีวิต ซึ่งจุดเริ่มต้นการใช้ยาเสพติด คือ บุหรี่และสุรา ยาเสพติดมีการขยายตัวเพิ่มขึ้นเรื่อย ๆ จึงเป็นความท้าทายในการดำเนินงานเกี่ยวกับการควบคุมการผลิตและการค้า อาชญากรรมเกี่ยวกับยาเสพติดทวีความรุนแรงมากขึ้น อีกทั้งยาและสารเสพติดชนิดใหม่มีการปรับให้เกิดการออกฤทธิ์ต่อจิตและประสาทที่รุนแรงเพิ่มขึ้น การใช้ยาเสพติดครั้งแรกนั้นมีสาเหตุที่หลากหลาย เช่น ความอยากรู้อยากลอง ทำให้รู้สึกดี เพื่อนชวน กระตุ้นให้เกิดพลัง ลดความเครียด ลดความวิตกกังวลหรือภาวะซึมเศร้า เป็นต้น เมื่อใช้ยาเสพติดผู้ที่ติดยาเสพติดจะไม่สามารถควบคุมการใช้ได้ และจากการศึกษา ผู้ติดยาเสพติดเริ่มต้นด้วยการสูบบุหรี่และสูบอย่างต่อเนื่องจนนำไปสู่การใช้ยาเสพติดชนิดอื่น ทฤษฎีประตูด่านแรกของการใช้ยาเสพติดถูกเสนอขึ้นโดย เดนนิส เคนเดล ศึกษาพบว่าผู้ที่ใช้ยาเสพติดผิดกฎหมาย เริ่มต้นด้วยการใช้ยาและสารเสพติดที่ถูกกฎหมายก่อน คือ บุหรี่ เหล้า และกัญชาตามลำดับ จากนั้นจึงเข้าสู่การใช้ยาเสพติดที่ผิดกฎหมายชนิดอื่น ๆ การศึกษาครั้งนี้จึงมีวัตถุประสงค์เพื่อตรวจสอบทฤษฎีประตูด่านแรกของการใช้ยาเสพติดและลำดับของการเริ่มต้นใช้ยาและสารเสพติดของผู้ป่วยยาเสพติด ด้วยการศึกษาแบบ Cross-sectional studies เก็บข้อมูลโดยใช้แบบสอบถามที่มีค่าความน่าเชื่อถือไม่น้อยกว่า 0.7 กลุ่มตัวอย่างคือผู้ป่วยติดยาเสพติดในสถาบันบำบัดรักษาและฟื้นฟูผู้ติดยาเสพติดแห่งชาติบรมราชชนนี จำนวน 440 คน วิเคราะห์ข้อมูลโดยความถี่ ร้อยละ ค่าเฉลี่ย ส่วนเบ่งเบนมาตรฐาน ค่าสัมประสิทธิ์สหสัมพันธ์ และสถิติวิเคราะห์ตัวแปรเพื่อศึกษาความสัมพันธ์ระหว่างรูปแบบประตูด่านแรกของยาเสพติดกับความรู้และทัศนคติ ที่ระดับนัยสำคัญทางสถิติ 0.05

ผลการศึกษาพบว่าผู้ป่วยมีอายุระหว่าง 18 - 56 ปี โดยเฉลี่ยเริ่มต้นใช้ยาและสารเสพติดช่วงอายุ 17 ปี จากการศึกษาพฤติกรรมการเริ่มต้นใช้ยาและสารเสพติด พบว่า ผู้ป่วยมีรูปแบบในการเริ่มต้นใช้ยาเสพติดมากที่สุด 3 รูปแบบ คือ บุหรี่ - เหล้า - ยาบ้า (27.0% ค่า $P < 0.05$), บุหรี่ - เหล้า - กัญชา (18.6% ค่า $P < 0.05$), บุหรี่ - ยาบ้า - ยาไอซ์ (10.2% ค่า $P < 0.05$) ตามลำดับ ซึ่งสอดคล้องกับทฤษฎีประตูด่านแรกการเริ่มต้นใช้ยาเสพติดของเดนนิส เคนเดล (บุหรี่,สุรา) ความสัมพันธ์ระหว่างรูปแบบของ บุหรี่ - เหล้า - ยาบ้า กับความรู้และทัศนคติไม่มีความสัมพันธ์อย่างมีนัยสำคัญทางสถิติ

จากการศึกษาแสดงให้เห็นว่าบุหรี่เป็นประตูด่านแรกของการใช้ยาและสารเสพติด อันนำไปสู่การใช้ยาเสพติดที่ผิดกฎหมายอื่น ๆ ซึ่งสอดคล้องกับการศึกษาก่อนหน้านี้เกี่ยวกับการเริ่มต้นใช้ยาและสารเสพติด ดังนั้นจากการศึกษาครั้งนี้ในการดำเนินงานเกี่ยวกับยาเสพติดควรมีการสนับสนุนและส่งเสริมโดยมุ่งเน้นเรื่องของการป้องกันการเริ่มต้นใช้ยาและสารเสพติดในเด็กและเยาวชน

97 หน้า

CONTENTS

CONTENTS (cont.)

LIST OF TABLES

LIST OF FIGURES

CHAPTER I
INTRODUCTION

1.1 Background and Significance

About 230 million people, or 5.0% of the world's adult population, are estimated to have used an illicit drug at least once in 2010. Throughout the world, illicit drug use appears to be generally stable, though it continues to be raising in several civilization countries. Heroin, cocaine and other drugs kill around 0.2 million people each year, shattering families and bringing misery to thousands of other people. Illicit drugs undermine economic and social development and contribute to crime, instability, insecurity and the spread of HIV (1).

Thailand's borders are vulnerable to narcotics trafficking. Thailand remains a transshipment country and a target market for drugs produced in neighboring countries. Heroin and methamphetamine were brought from Burma directly across Thailand's northern border and indirectly through Laos and Cambodia for export to consumers in Thailand. The most quantities of marijuana or hemp enter from Laos, while small quantities may enter from Cambodia. Marijuana smuggled into southern Thailand is frequently transshipped to Malaysia and other regional markets.

The first half of 2010 has been continuous success in the seizure of heroin, crystal methamphetamine "ice", and methamphetamine tablets "ya-ba" (2). Cultivation of opium and, marijuana and production of synthetic drugs remain minimal. The definition of a "major" source in Thailand of poppy or opium in the cultivation well under 1000 hectares, country. Small quantities of opium produced in the country are primarily intended for local consumption by hill tribe growers.

Responding to the widespread problem of methamphetamine or meth abuse in Thailand, Thai government implemented a comprehensive anti-drug campaign with vague but seemingly ambitious targets in September 2011. The last national policy aims to reduce drug-related social problems, the number of drug

addicts, and recidivism. Moreover, the policy also aims to increase awareness of the dangers of drug use.

From table 1.1 shows that drug seizures by Thai law enforcement agencies continued to increase throughout 2010 and 2011. The Drug Enforcement Administration (DEA) worked closely with Thai law enforcement on joint investigations resulting in the successful disruption of several international drug trafficking organizations. One investigation resulted in a Thai company ceasing production and destroying all stockpiles of anabolic and, other steroids, and precursor chemicals, effectively taking 26 million illegal steroid tablets off the black market (3).

Table 1.1 Statistical Tables: Drug Seizures (*All figures in kilograms, except meth tablets and ecstasy*)

Drug	**YEAR**		
	2009	**2010**	**2011**
METH	26.9 Million	51.6 Million	33.6 Million (reported as 3,029,011 grams at 90mg per tablet)
CRYSTAL	210.6	692.6	724.8
KETAMINE	20	165.4	72.05
HEROIN	143	141.7	354.3
ECSTASY	59,173	15,883	19,262 (reported as 4,815.5 grams at 250mg per tablet)
COCAINE	9.2	30.8	19.5

Although the amount of heroin seized spiked in 2011, regional opiate production and heroin trafficking have declined significantly from the quantities reported prior to 2006. This decline, however, has been offset by higher production of methamphetamine tablets and crystal methamphetamine by Burma-based drug traffickers. It is believed that these any trafficable produce hundreds of millions of methamphetamine tablets each year for regional export (4). A substantial portion is trafficked into Thailand, where it remains the primary drug of abuse. Thailand also survey as a transit point of Small quantities of opium and methamphetamine tablets to survey international destinations including the U.S., typically via parcel post or mail. During 2010-2011, Thai authorities reported an increase in seizures of pill press machines, this might be an indication a possible renewal of methamphetamine tablet production in Thailand. Crystal methamphetamine, for both domestic consumption and regional export, is not smuggled into Thailand primarily from Burma, but also from Iran, and various West African countries.

Thailand has a small domestic consumer market for ecstasy and cocaine, largely among affluent residents in large cities as well as tourists and expats in Thailand's resort areas. Normally, Ecstasy is smuggled into Thailand via commercial air carriers from Europe (5). While cocaine market in Thailand is still largely controlled by West African criminal organizations in moving smaller quantities, South American and Chinese trafficking groups have now become involved in the regional import of the drug in bulk quantity, typically to China, Hong Kong and Australia.

Marijuana is used widely in Thailand where it is domestically cultivated in limited quantities, with bulk imports from Laos for domestic use and regional export. Kratom (Mitragyna speciosa), a local drug with modest psychotropic properties, is grown locally and consumed primarily in Thailand’s southern provinces. Seizures of ketamine within Thailand have risen in recent years, with 165 kilograms seized in 2010 and 72 kilograms seized through August of 2011.

Ketamine is sold primarily within entertainment venues to affluent Thais and the expatriate community. Ketamine is primarily transported into Thailand from India. Thailand-based enterprises continue to market steroids and HGH for worldwide sale.

From this situation, the obstacle on the suppression issues are also a major source of the country, because the drug produce and import from the neighboring countries along the borderline. So, the number of drug increasing and epidemic through the whole country.

In 2011, Office of the Narcotics Control Board (ONCB) and Administrative Committee of Substance Abuse Academic Network (ACSAAN) conducted a survey on households across the country to estimate the number of people involved with drugs. The result of the survey shows that 3,532,436 people used to be involved with a narcotic drug. The majority of them, 2,440,785 people, had been addicted to cannabis or marijuana; 1,233,176 people to Kratom (Mitragyna speciosa), and 902,244 people to methamphetamine. Only in 2011, there were 598,765 people using a narcotic drug and among these drug addicts, 404,548 people were addicted to Kratom (Mitragyna speciosa), 398,502 people to tranquillizers/sleeping pills, and 109,040 people to cannabis or marijuana. When comparing the numbers of people "addicted" to any kinds of narcotic drugs in 2008 and 2011, the number rose from 2,600,120 people in 2002 to 3,531,436 persons in 2011(6).

Another survey was done between April and June 2012 during the campaign: "National Command for Drugs Elimination" under the responsibility of Office of the Narcotics Control Board (ONCB). From the statistics on drugs control by screening and sending drugs addicts to a drugs treatment program. It the survey was participated by 372,982 drug users enrolled in the program 249,397 people participated voluntarily while 112,124 persons are forced to undergo the treatment and 14,465 people participate in the program as a part of the punishment. Moreover, a statistic of the Ministry of Public Health indicates that from 65,992 drugs users who are under treatment, 75.4% of them have never received any drugs treatment before and they can be divided into three age groups. 24.3% of them are between 15-19 years old. 24.4% are between 20-24 years old, and 17.8% are between 25-29 years old (7).

Considering the above data, it becomes obvious that drug addiction rate does not tend to reduce at all regardless how much effort the government has put into in order to counter the problem. It is also shown in the statistics that the number of new drugs addicts is increasing, and almost 50.0% of the drugs users who participate a treatment program are children.

Similarly, the number of children and teenagers who are addicted to cigarettes is also increasing. A survey in 2004 shows that more than 500,000 teenagers in Thailand addicted to tobacco and the number tends to become higher. In 2006, Office of National Statistics and Tobacco Control Research and Knowledge Management Center stated that 11.03 million people at the age of 15 years old or above are smokers. This number is about 21.91% of the population in the whole country (8). Between 2004 and 2006, Thailand conducted an operational program to investigate the situation of drug abuse. The program aimed to monitor and compare the situation between 2004-2005 and 2005-2006. The result shows that elementary school students had witnessed drug abuse in school for 11.07% and 9.09% respectively. While secondary and college students mentioned about drug abuse in school for 20.43% in 2004-2005 and 18.45% in 2005-2006. , Furthermore in secondary and college levels, the survey shows that the number of students who are occasional smokers and daily smokers increased from 17.24% to 17.71% and in 2007, 1,605,211 children and teenagers in Thailand were addicted to tobacco (9-10).

According to fact sheets data from The Global Adult Tobacco Survey (GATS), in 2009 Thailand was a nationally representative household survey of all non□institutionalized men and women aged 15 years old. GATS was conducted by Department of Disease Control, Ministry of Public Health, the National Statistical Office, and the Faculty of Public Health, at Mahidol University, and Tobacco Control Research and Knowledge Management Centre. Technical assistance was provided by the World Health Organization and the United States Centers for Disease Control and Prevention (CDC). Financial support for the survey was provided by the Bloomberg Philanthropies. Tobacco use: Overall, 23.7% (12.5 million persons) of the Thai adult population currently smoked tobacco; 46.5% of males and 3.1% of females currently smoked (11).

The Global Adult Tobacco Survey (GATS), 2011 in Thailand. GATS uses a global standardized methodology. It includes information on respondents' background characteristics, tobacco use (smoking and smokeless), cessation, secondhand smoke, economics, media, and knowledge, attitudes and perception toward tobacco use. In Thailand, GATS was first conducted in 2009 and repeated in 2011 as a household survey of persons 15 years of age and older by the Department of

Disease Control, Ministry of Public Health, National Statistical Office and Mahidol University. Tobacco use: 46.6% of men, 2.6% of women, and 24.0% overall (13.0 million adults) currently smoked tobacco (12).

From the data above, it can be seen that the percentage of adults involved with every type of tobacco is increasing every year both for male and female users. As mentioned above, the percentage of children who are addicted to tobacco is increasing as well. The research from Action on Smoking and Health Foundation Thailand shows that smoking tobacco in children will lead them to other types of more dangerous narcotic drugs. Therefore, tobacco is considered "a gateway drug" that will allow the children to get involved in more dangerous narcotic drugs (13-14).

This can be seen that the most of the studies indicate that tobacco is the primary gateway that would lead the users to other types to narcotic drugs. In foreign countries National Institutes of Health (NIH), 2011. The gateway drug model is based upon epidemiological evidence that most illicit drug users report use of tobacco products or alcohol prior to illicit drug use. This model has generated significant controversy over the years, mostly relating to whether prior drug exposure (to nicotine, alcohol or marijuana) is causally related to later drug use. Previously, studies have not been able to show a biological mechanism by which nicotine exposure could increase vulnerability to illicit drug use (15)

The Gateway Drug Theory suggests that licit drugs, such as tobacco and alcohol serve as a "gateway" toward the use of other illicit drugs. During the literature reviews the population who used any kind of drugs was 3,531,436 person while the use of tobacco products was about 14.3 million people. However, there remains some discrepancy regarding which among drug-alcohol, tobacco, and marijuana serves as the initial "gateway" drug subsequently leading to the use of illicit drugs. Therefore, it is necessary to the gateway drug theory. In order to determine which drug (alcohol, tobacco, or marijuana) was the actual "gateway" drug leading to additional substance use and to study the process of drug addict in patients who were using or new beginner, leading to become a drug addict.

1.2 Research question

What is the gateway of drug and substance abuser?

1.3 Objectives

To study in general about the gateway drugs among addicted drugs patient in The Princess Mother National Institute on Drug Abuse Treatment.

1. The pattern of gateway drugs among addicted drugs patients.
2. The knowledge and attitude on the gateway drug which related to pattern of gateway.

1.4 Research hypothesis

1. The major gateway drugs in addicted patient is nicotine, alcohol, and marijuana respectively.
2. The patients have a positive attitude towards the gateway drugs.
3. The patient's cognition is variegated about gateway drugs.

1.5 Variables

Independent variables

1. Personal data include sex, age, education, habitat, residential area and family relationships.
2. Perception, knowledge and attitude with respect to the gateway drugs.

Dependent variables

Type of drug gateway includes use of drug and substance abuse to the first (Gateway Drug).

1.6 Definition of Term

Drug in **"Narcotics Control Act, B.E. 2519" as follow:**

"Narcotics" mean narcotics under the law on narcotics, psychotropic substances under the law on psychotropic substances and volatile substances under the law on controlling the use of volatile substances.

Narcotics act B.E. 2522 as follow:

"Narcotics" mean any form of chemicals or substances, which, upon being consumed whether by taking orally, inhaling, smoking, injecting or by whatever means, causes physiological or mental effect in significant manner such as

1. Need of taking continuously and seeking these drugs any way.
2. Need of continual increase of dosage.
3. To become enslaved to the drugs physically and psychologically and having withdrawal symptoms when deprived of drug.
4. The health in general being deteriorated.

Also includes plant or part of plants, which yield product as narcotics, or may be used to produce narcotics and chemical uses of the production of such narcotics as notified by the Minister in the Government Gazette, but excludes certain formula for household medicine under the law on drugs, which contain narcotic ingredients.

"Addict people" means who must take this substance continuously, having withdrawal symptoms when deprived of drug.

"Drug use" means to send drugs into the body by any way for example taking orally, inhaling, smoking, eating, smelling, keeping, rubbing and tucking.

"Drug addiction patients" mean a patient suffering from a brain addiction disease to receiving drug therapy in the Princess Mother National Institute on Drug Abuse Treatment.

"Gateway drug" means to any mood-altering drug, as a stimulant or tranquilizer that does not cause physical dependence but may lead to the use of addictive drugs. The term is used because the drugs act as a "gateway" to the use of other drugs.

"Attitude" An attitude is an expression of favor or disfavor behavior toward gateway drugs and substance use. An attitude can be defined as a positive or negative evaluation of gateway drugs and substance use.

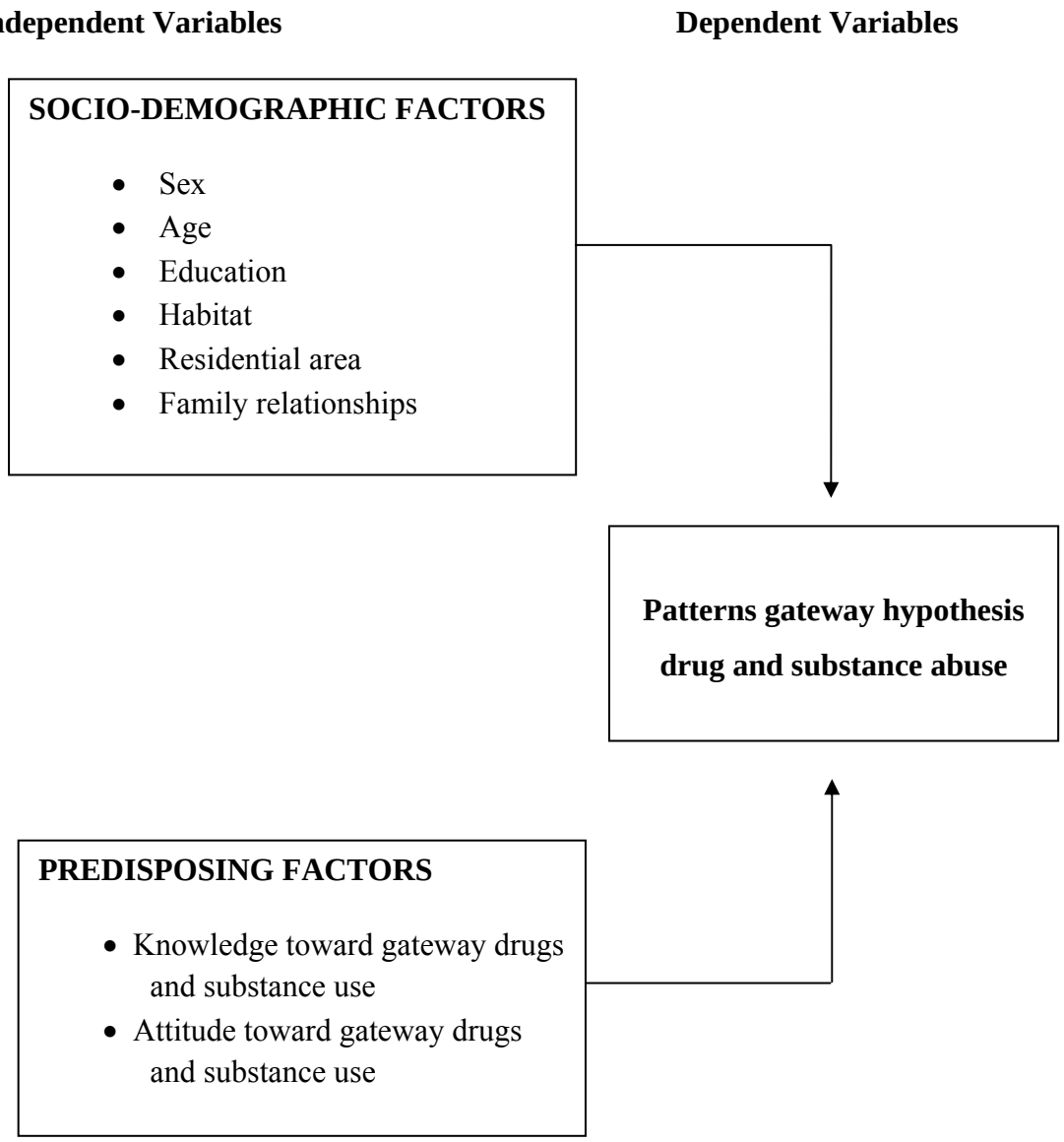
"Perception" means to the interpretation of stimulus seeing or relating to a certain environment through individual's experiences and learning. Perception can be learned depending on desire and responsibility.

"Knowledge" means learning or memorization about information, method, structure process or things from a less complicated to more complicated. Due to this research, knowledge means knowledge of gateway drugs and substance use.

1.7 Scope of Study

To study was conducted in the Princess Mother National Institute on Drug Abuse Treatment.

1.8 Conceptual Framework



CHAPTER II
LITERATURE REVIEW

Examining the attitude of gateway theory in drugs addict patients. This study the theories to relate as follows:

2.1 Drug Addicts and Addiction

2.2 The Gateway Hypothesis

2.3 Concept of Attitude

2.4 Concept of Knowledge

2.5 Concept of Perception

2.6 Related Researches

2.1 Drug Addiction and Addiction

2.1.1 Definition of drug addiction

Thomas Horvath, 1998 (16) explained about “To addict” is derived from a Latin root meaning to assign to, or to surrender. There is no definitive contemporary definition of addiction. We will use a working definition which is consistent with what is known about addiction treatment and with common sense. Addiction is repeated involvement with anything, despite excessive costs, because of craving. The three central concepts here are “anything,” “excessive,” and “craving”.

Addictions tend to develop to substances or activities that strongly influence emotions. Substances that influence emotion via physiological (physical) actions are called psychoactive. But even substances which are not “physiologically psychoactive” can become “psychologically psychoactive” because of learned associations to them. The same process could occur for activities. A few addictions to non-psychoactive substances, the negative consequences of which were substantial.

Morse & Flavin, 1992 (17) Definition's addiction is a primary, progressive, chronic disease with genetic, psychosocial, and environmental factors influencing its development and manifestations. The disease is often progressive and fatal. It is characterized by impaired control over use of the substance, preoccupation with the substance, use of the substance despite adverse consequences, and distortions in thinking.

Diagnostic and Statistical Manual of Mental Disorders, 1994 (18) relies on symptoms for its definition. The DSM says that addiction, or dependence is present in an individual who demonstrates any combination of three or more of the following symptoms (paraphrased for simplicity), occurring at any time in the same 12-month period:

1) Preoccupation with use of the chemical between periods of use.

2) Using more of the chemical than had been anticipated.

3) The development of tolerance to the chemical in question.

4) A characteristic withdrawal syndrome from the chemical.

5) Use of the chemical to avoid or control withdrawal symptoms.

6) Repeated efforts to cut back or stop the drug use.

7) Intoxication at inappropriate times (such as at work), or when withdrawal interferes with daily functioning (such as when hangover makes person too sick to go to work).

8) A reduction in social, occupational or recreational activities in favor of further substance use.

9) Continued substance use in spite of the individual having suffered social, emotional, or physical problems related to drug use.

2.1.2 Drug Classification Drug can categorize by:

2.1.2.1 Distinguishing by source classifies drug dependence into 2 following type

1) Nature extracts from plant or plan e.g. Cannabis

2) Synthesis with the chemical method e.g. Morphine, Heroin, Methadone, Pethidine, Amphetamine, Thinner

2.1.2.2 Categorize by Law according to the declaration of Ministry of Public Health, 1996, subject in name specification and type of the narcotics that can divide the drug into 5 types i.e.

Type 1 or Violence narcotics i.e. heroin, LSD, amphetamine and its derivatives 15 kinds, etc. The importance substances are methamphetamine, MDMA, MDA. It contained the highest punishment for the drug addict, seller, occupation, import and export, and eventually the drugs in this type are not for the medicinal purpose any more.

Type 2 or General Narcotics for example, the opium, morphine, cocaine, coca, codeine, and methadone, etc. This type can use for the medicinal purposes but only the under of the doctor control.

Type 3 or the pharmacopoeias drugs and contained the drugs type 2 in. It is an instant drug that produced under the Ministry of Public Health certified and available at the drugstore i.e. the cough syrup that contained the cocaine, diarrhea drug that contained diphenoxin, inject drug for any pain relief such as morphine, phetidine that extracted from the opium, and ached drug that contained the codeine, etc. This drug type is used for the medicinal purpose that cannot use in the other purposes or to taking.

Type 4 or the chemical used for the drug type 1 or 2 productions such as the chemical solution as acetic anhydride, and acetic chloride, that used for the change of morphine into heroine, ergometrin or chlopsudo-ephedrine that used for met-amphetamine produced, and the others 12 materials that can produce into metamphetamine and MDMA, etc. This type is not for the medicinal purpose and contained the punishment as well.

Type 5 i.e. all part of the marijuana that create THC, all part of Kratom plant that create Alkaloid of Mitragynine, the opium that create Alkaloid of Morphine and Codinine (Papeverbracteatum or PapeverSomniferum Linn.), and Psilocybecubensis that create Psilocybin, etc.

2.1.2.3 Distinguishing by the affect against the central nerves is classified into 4 kinds.

1) Depressants, e.g. opium, heroin, sleeping, pill, nerve ecstasies, all type of alcoholic drinks including evaporates e.g. thinner, benzene, lacquer, and glue

2) Stimulants, e.g. amphetamine, madder leave, cocaine, etc.

3) Hallucinogenic drug, e.g. L.S.D., D.M.T., S.T.P. and Mescaline

4) Multi-effect e.g. marijuana

2.1.2.4 Distinguishing by World Health organization classifies drug dependence into 9 types:

1) Opiate or Morphine Type such opium, morphine, heroine

2) Cannabis Type such as marijuana

3) Hallucinogens Type such as LSD

4) Cocaine Type such as coca leaves, cocaine

5) Amphetamines Type such amphetamine and dexamphetamine.

6) Barbiturates Type or Seconal such as sleeping pills

7) Alcohol Type of every types; beer, wine, whiskey

8) Cud Type e.g. Cud leaves, Madder leaves (grown in Africa but not in Thailand)

9) Other Non-specified Type such as inhalants, tinner, pain-killers, cigarettes

2.1.2.5 This scheme classifies drugs according to their primary pharmacological activity by Schuckit, M, 1995 as cited in Sumaj Kitisurakulchai, 2009. This drug classification is presented in Table 2-1, along with some examples of the more frequently encountered drugs of each particular class (19, 20).

Table 2.1: Drug Classification

Class Some	Examples
CNS depressants	Alcohol, hypnotics, antianxiety drugs
CNS sympathomimetics or stimulants	Amphetamine, methylphenidate, all forms of cocaine, weight-reducing products
Opiates	Heroin, morphine, methadone, and almost all prescription analgesics
Canabinols	Marijuana, hashish
Hallucinogens	Lysergic acid diethylamide(LSD), mescaline, psilocybin, ecstasy
Solvents	Aerosol sprays, glues, toluene, gasoline, Paint thinner
Over-the-counter drugs	Contain: atropine, scopolamine, weak stimulants, anti-histamines, weak analgesics
Others	Phencyclidine(PCP)

Source: Schuckit, M., 1995:9.

1) General CNS Depressants. The most prominent effect of these drugs is the depression of excitable tissues at all levels of the brain, along with relatively few analgesic properties at the usual doses. The CNS depressants include most sleeping medications, antianxiety drugs, and alcohol. The antipsychotic drugs such as chlorpromazine or haloperidol (Haldol), are not CNS depressants, do not resemble the antianxiety drugs in their structures or predominant effects, are not physically addictive, and are rarely used to induce a “high”.

2) CNS Sympathomimetic or Stimulants

3) The predominant effect of these drugs at the usual doses is the stimulation of CNS tissues through blockage of the actions of inhibitory nerve cells or by the release of transmitter substances (chemicals released from one brain cell to stimulate the next cell) from the cells or by direct action of the drugs themselves. The substance most relevant to clinical situations include all the amphetamines, methylphenidate (Ritalin). And all forms of cocaine.

4) Opiate Analgesics

5) These drugs, also called narcotic analgesics, are used clinically to decrease pain, and they include morphine and other alkaloids of opium as well as synthetic morphine-like substances and semi-synthetic opium derivatives. Prominent examples of these drugs include almost all pain-killing medications, ranging from propoxphene (Dravon) to methadone (Dolophine) and including oxycodone (Perrcodan) and pentazocine (Talwin).

6) Cannabinols (Principally Marijuana)

7) The active ingredient in all these substances is tetrahydrocannabinol (THC), which has the predominant effects of producing euphoria, an altered time sense, and, at doses higher than those usually found in clinical situations, hallucinations.

8) Hallucinogens or Psychedelics

9) The predominant effect of these substances is the production of enhanced sensory perceptions. These drugs can also produce hallucinations, usually of a visual nature. The hallucinogens have no accepted medical usefulness.

10) Solvents, Aerosols, and Glues

11) These substances include various fuels, aerosol sprays, glues, paints, and industrial solutions. They are used as drugs of abuse in attempts to alter the state of consciousness, producing primarily light-headedness and confusion.

12) Over-the-Counter Drugs and Other Prescription Drugs

A variety of substances are sold without prescription for the treatment of constipation, pain, nervousness, insomnia, and other common complaints. Sedative or hypnotic medications are the most frequently abused, contain antihistamines, and are taken by abuser to produce feelings of light-headedness and euphoria. Finally, there are a number of other prescription drugs that are much less likely than the aforementioned ones to be abused, including diuretics, antiparkinsonian drugs, laxatives, and some antipsychotics.

2.1.3 The Biological Basis of Addiction

Drug addictions are complex phenomena that defy simple explanation or description. In order to understand drug one must first understand how drugs work in the brain, why certain drugs have the potential for addict, and what, if any, biological differences exist among individuals in their susceptibility to drugs addiction.

The Brain on Drugs

The brain consists of several large regions, each responsible for some of the activities vital for living. These include the brainstem, cerebellum, limbic system, diencephalon, and cerebral cortex (Figure 2.1).

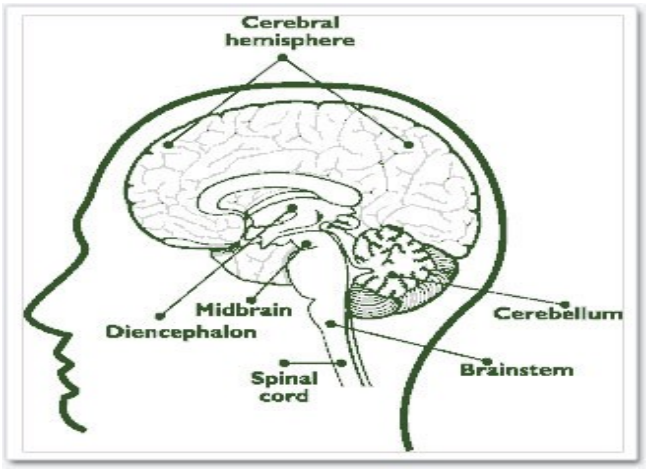


Figure 2.1 This drawing of a brain cut in half demonstrates some of the major regions of the brain (21).

The brainstem is part of the brain that connects the brain and the spinal cord. It controls many basic functions, such as heart rate, breathing, eating, and sleeping. The brainstem accomplishes this by directing the spinal cord, other parts of the brain, and the body to do what is necessary to maintain these basic functions.

The cerebellum, which represents only one-eighth of the total weight of the brain, coordinates the brain's instructions for skilled repetitive movements and for maintaining balance and posture. It is a prominent structure located above the brainstem.

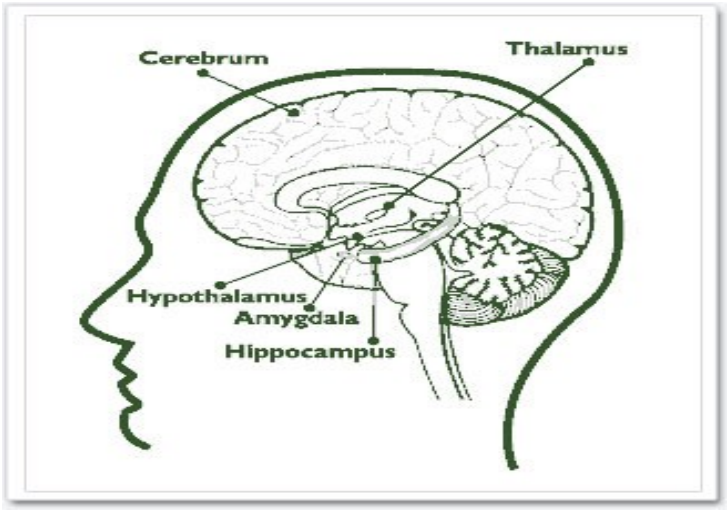


Figure 2.2 This drawing of brain cut in half demonstrates some of the brain's internal structures. The amygdale and hippocampus are actually located deep within the brain, but are shown as an overlay in the approximate areas that they are located (22).

On top of the brainstem and buried under the cortex, there is a set of more evolutionarily primitive brain structures called the limbic system (Figure 2.2). The limbic system structures are involved in many of our emotions and motivations, particularly those that are related to survival, such as fear, anger, and emotions related to sexual behavior. The limbic system is also involved in feelings of pleasure that are related to our survival, such as those experienced from eating and sex. Two large limbic system structures called the amygdala and hippocampus are also involved in memory. One of the reasons that drugs of abuse can exert such powerful control over our behavior is that they act directly on the more evolutionarily primitive brainstem and limbic structures, which can override the cortex in controlling our behavior.

The diencephalon, which is also located beneath the cerebral hemispheres, contains the thalamus and hypothalamus (Figure 2.2). The thalamus is involved in

sensory perception and regulation of motor functions (i.e., movement). It connects areas of the cerebral cortex that are involved in sensory perception and movement with other parts of the brain and spinal cord that also have a role in sensation and movement. The hypothalamus is a very small but important component of the diencephalon. It plays a major role in regulating hormones, the pituitary gland, body temperature, the adrenal glands, and many other vital activities.

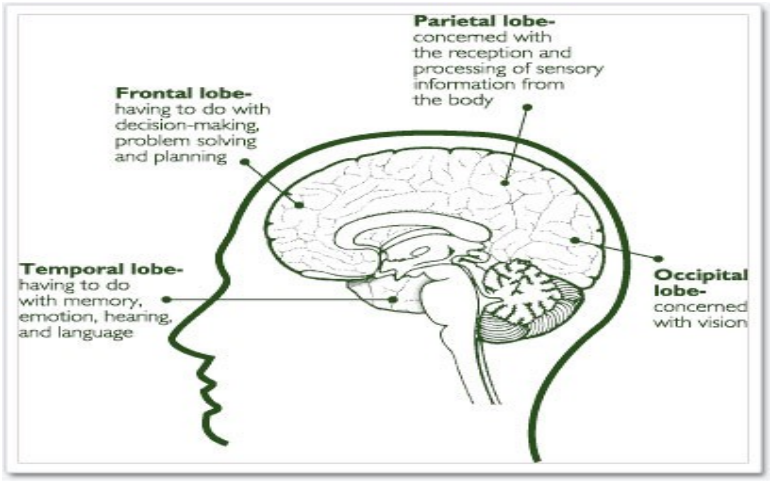


Figure 2.3 This drawing of a brain cut in half demonstrates the lobes of the cerebral cortex and their functions (23).

The cerebral cortex, which is divided into right and left hemispheres, encompasses about two-thirds of the brain mass and lies over and around most of the remaining structures of the brain. It is the most highly developed part of the human brain and is responsible for thinking, perceiving, and producing and understanding language. It is also the most recent structure in the history of brain evolution. The cerebral cortex can be divided into areas that each have a specific function (Figure 2.3). For example, there are specific areas involved in vision, hearing, touch, movement, and smell. Other areas are critical for thinking and reasoning. Although many functions, such as touch, are found in both the right and left cerebral hemispheres, some functions are found in only one cerebral hemisphere. For example, in most people, language abilities are found in the left hemisphere.

Nerve Cells and Neurotransmission

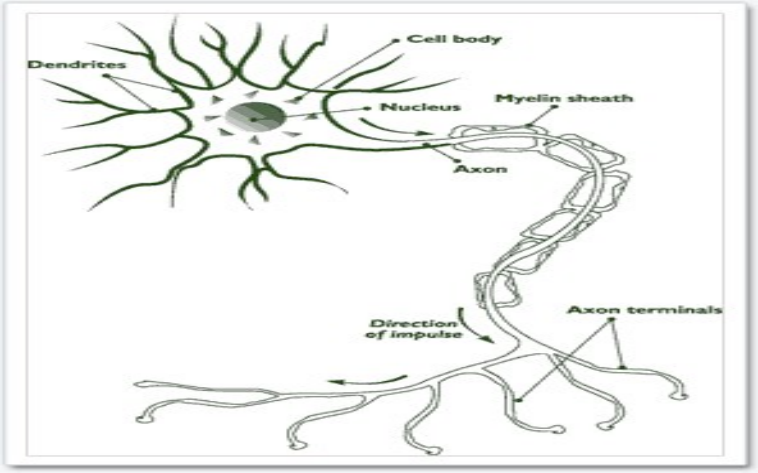


Figure 2.4 Nerve Cells and Neurotransmission (24).

The brain is made up of billions of nerve cells. Typically, a neuron contains three important parts (Figure 2.4): a central cell body that directs all activities of the neuron; dendrites, short fibers that receive messages from other neurons and relay them to the cell body; and an axon, a long single fiber that transmits messages from the cell body to the dendrites of other neurons or to body tissues, such as muscles. Although most neurons contain all of the three parts, there is a wide range of diversity in the shapes and sizes of neurons as well as their axons and dendrites. Scientists investigating which brain structures maybe involved in the human drug reward system have learned a great deal from studies with rats. Because the chemistry of the human brain and the rat brain is similar, they believe that the process of drug addiction may be the same for both. The illustrations shown here use information gathered from animal studies to show what areas may be involved in reward systems in the human brain.

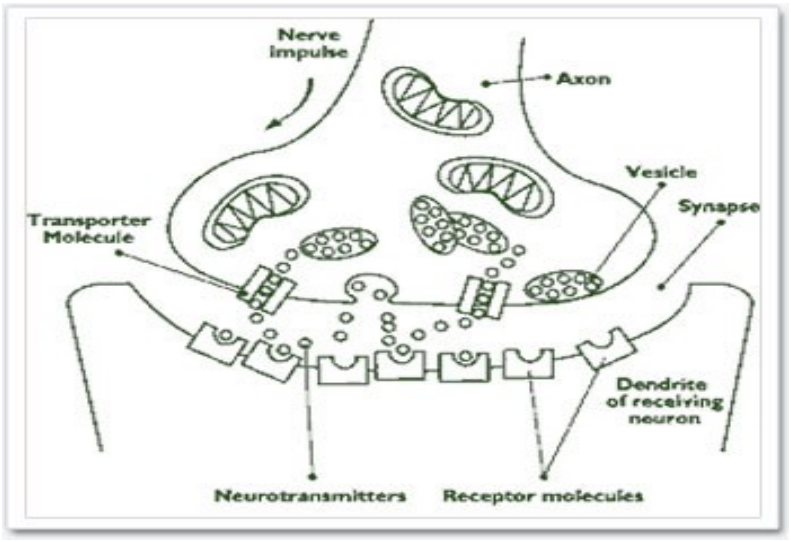


Figure 2.5 The transfer of a message from the axon of one nerve cell to the dendrites of another is known as neurotransmission (25)

The transfer of a message from the axon of one nerve cell to the dendrites of another is known as neurotransmission. Although axons and dendrites are located extremely close to each other, the transmission of a message from an axon to a dendrite does not occur through direct contact. Instead, communication between nerve cells occurs mainly through the release of chemical substances into the space between the axon and dendrites (Figure 2.5). This space is known as the synapse. When neurons communicate, a message, traveling as an electrical impulse, moves down an axon and toward the synapse. There it triggers the release of molecules called neurotransmitters from the axon into the synapse. The neurotransmitters then diffuse across the synapse and bind to special molecules, called receptors that are located within the cell membranes of the dendrites of the adjacent nerve cell. This, in turn, stimulates or inhibits an electrical response in the receiving neuron's dendrites. Thus, the neurotransmitters act as chemical messengers, carrying information from one neuron to another.

There are many different types of neurotransmitters, each of which has a precise role to play in the functioning of the brain. Generally, each neurotransmitter can only bind to a very specific matching receptor. Therefore, when a neurotransmitter couples to a receptor, it is like fitting a key into a lock. This coupling then starts a

whole cascade of events at both the surface of the dendrite of the receiving nerve cell and inside the cell. In this manner, the message carried by the neurotransmitter is received and processed by the receiving nerve cell.

Once this has occurred, the neurotransmitter is inactivated in one of two ways. It is either broken down by an enzyme or reabsorbed back into the nerve cell that released it. The reabsorption (also known as re-uptake) is accomplished by what are known as transporter molecules (Figure 2.5). Transporter molecules reside in the cell membranes of the axons that release the neurotransmitters. They pick up specific neurotransmitters from the synapse and carry them back across the cell membrane and into the axon. The neurotransmitters are then available for reuse at a later time.

As noted above, messages that are received by dendrites are relayed to the cell body and then to the axon. The axons then transmit the messages, which are in the form of electrical impulses, to other neurons or body tissues. The axons of many neurons are covered in a fatty substance known as myelin. Myelin has several functions. One of its most important is to increase the rate at which nerve impulses travel along the axon. The rate of conduction of a nerve impulse along a heavily myelinated axon can be as fast as 120 meters/second.

In contrast, a nerve impulse can travel no faster than about 2 meters/second along an axon without myelin. The thickness of the myelin covering on an axon is closely linked to the function of that axon. For example, axons that travel a long distance, such as those that extend from the spinal cord to the foot, generally contain a thick myelin covering to facilitate faster transmission of the nerve impulse. (Note: The axons that transmit messages from the brain or spinal cord to muscles and other body tissues are what make up the nerves of the human body. Most of these axons contain a thick covering of myelin, which accounts for the whitish appearance of nerves.)

Effects of Drugs of Abuse on the Brain

Pleasure, which scientists call reward, is a very powerful biological force for our survival. If you do something pleasurable, the brain is wired in such a way that you tend to do it again. Life-sustaining activities, such as eating, activate a circuit of specialized nerve cells devoted to producing and regulating pleasure. One important

set of these nerve cells, which uses a chemical neurotransmitter called dopamine, sits at the very top of the brainstem in the ventral tegmental area (VTA) (Figure 2.6). These dopamine-containing neurons relay messages about pleasure through their nerve fibers to nerve cells in a limbic system structure called the nucleus accumbens. Still other fibers reach to a related part of the frontal region of the cerebral cortex. So, the pleasure circuit, which is known as the mesolimbic dopamine system, spans the survival-oriented brainstem, the emotional limbic system, and the frontal cerebral cortex.

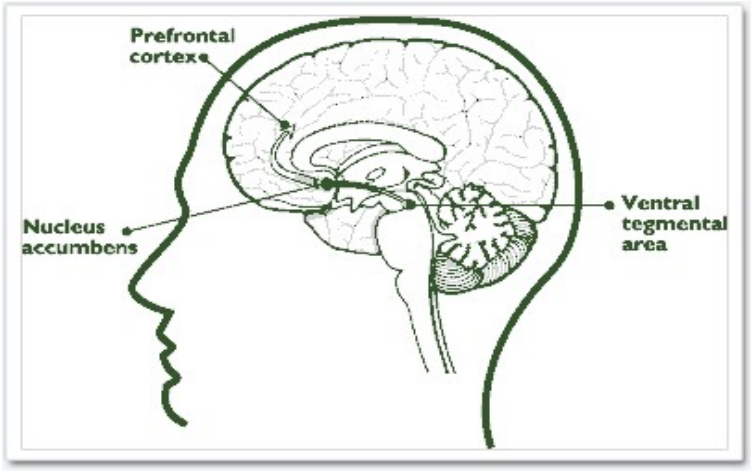


Figure 2.6 Effects of Drugs of Abuse on the Brain (26)

All drugs that are addicting can activate the brain's pleasure circuit. Drug addiction is a biological, pathological process that alters the way in which the pleasure center, as well as other parts of the brain, functions. To understand this process, it is necessary to examine the effects of drugs on neurotransmission. Almost all drugs that change the way the brain works do so by affecting chemical neurotransmission. Some drugs, like heroin and LSD, mimic the effects of a natural neurotransmitter. Others, like PCP, block receptors and thereby prevent neuronal messages from getting through. Still others, like cocaine, interfere with the molecules that are responsible for transporting neurotransmitters back into the neurons that released them (Figure 2.7). Finally, some drugs, such as methamphetamine, act by causing neurotransmitters to be released in greater amounts than normal.

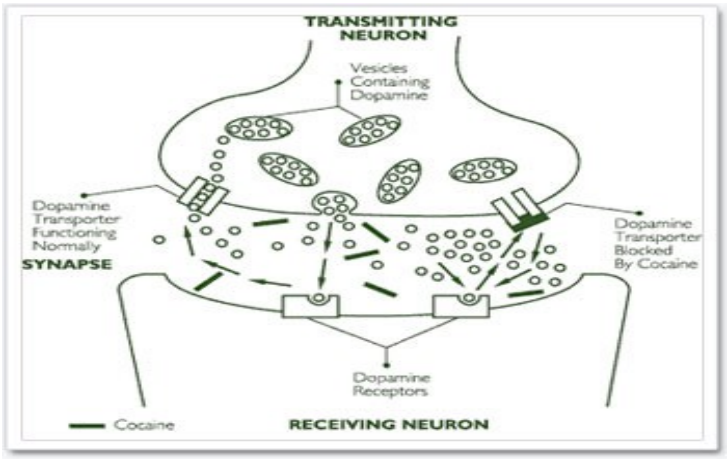


Figure 2.7: When cocaine enters the brain, it blocks the dopamine transporter from pumping dopamine back into the transmitting neuron, flooding the synapse with dopamine. This intensifies and prolongs the stimulation of receiving neurons in the brain's pleasure circuits, causing a cocaine "high" (27).

Prolonged drug use changes the brain in fundamental and long-lasting ways. These long-lasting changes are a major component of the addiction itself. It is as though there is a figurative "switch" in the brain that "flips" at some point during an individual's drug use. The point at which this "flip" occurs varies from individual to individual, but the effect of this change is the transformation of a drug abuser to a drug addict.

The Brain's Drug Reward System

Scientists investigating which brain structures may be involved in the human drug reward system have learned a great deal from studies with rats. Because the chemistry of the human brain and the rat brain is similar, they believe that the process of drug addiction may be the same for both. The illustrations shown here use information gathered from animal studies to show what areas may be involved in reward systems in the human brain.

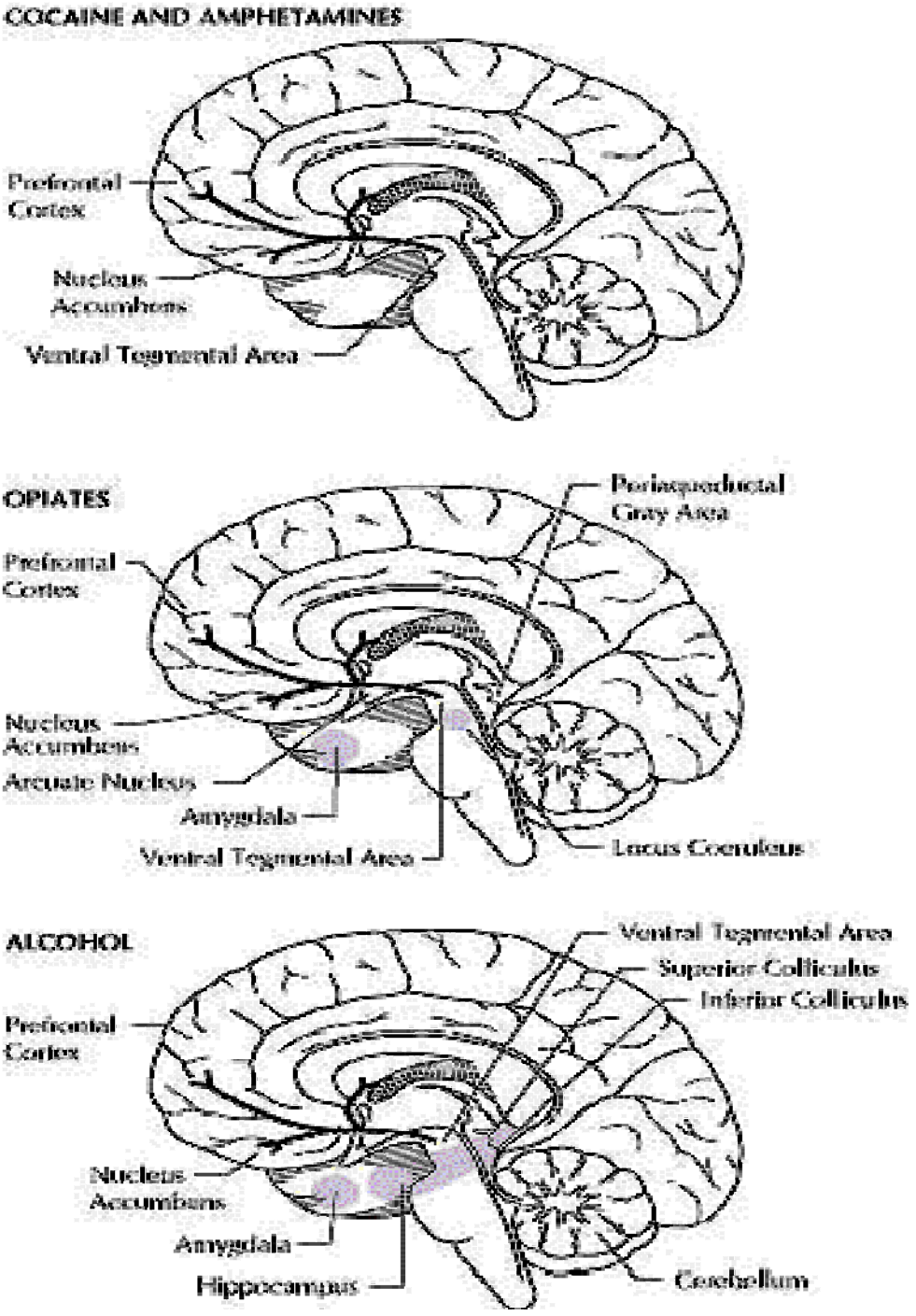


Figure 2.8 The Brain's Drug Reward System (28).

The **cocaine and amphetamine reward system** includes neurons using dopamine found in the ventral tegmental area (VTA). These neurons are connected to the nucleus accumbens and other areas such as the prefrontal cortex.

The **opiate reward system** also includes these structures. In addition, opiates affect structures that use brain chemicals that mimic the action of drugs such as heroin and morphine. This system includes the arcuate nucleus, amygdala, locus coeruleus, and the periaqueductal gray area.

The **alcohol reward system** also includes the VTA and nucleus accumbens and affects the structures that use GABA (gamma-aminobutyric acid) as a neurotransmitter. GABA is widely distributed in numerous areas of the brain, including the cortex, cerebellum, hippocampus, superior and inferior colliculi, amygdala, and nucleus accumbens. The VTA and the nucleus accumbens are two structures involved in the reward system for all drugs, including alcohol and tobacco, although other mechanisms might be involved for specific drugs. Here are summaries of the effect of select street drugs on the brain. Some of the introductory information is derived from About.com. Select authoritative references for information about effects of drugs on the brain include: (29, 30)

Heroin

Heroin is a highly addictive opiate (like morphine). Brain cells can become dependent (highly addictive) on this drug to the extent that users need it in order to function in their daily routine. While heroin use starts out with a rush of pleasure, it leaves the use in a fog for many hours afterwards. Users soon find that their sole purpose in life is to have more of the drug that their body has become dependent on.

Marijuana

The parts of the brain that control emotions, memory, and judgment are affected by marijuana. Smoking it can not only weaken short-term memory, but can block information from making it into long term memory. It has also been shown to weaken problem solving ability.

Alcohol

Alcohol is no safer than drugs. Alcohol impairs judgment and leads to memory lapses. It can lead to blackouts. It distorts vision, shortens coordination, and in addition to the brain can damage every other organ in the body.

Cocaine

Cocaine, both in powder form and as crack, is an extremely addictive stimulant. An addict usually loses interest in many areas of life, including school, sports, family, and friends. Use of cocaine can lead to feelings of paranoia and anxiety. Although often used to enhance sex drive, physical effect of cocaine on the receptors in the brain reduces the ability to feel pleasure (which in turn causes the dependency on the drug).

Inhalants

Inhalants, such as glue, gasoline, hair spray, and paint thinner, are sniffed. The effect on the brain is almost immediate. And while some vapors leave the body quickly, others will remain for a long time. The fatty tissues protecting the nerve cells in the brain are destroyed by inhalant vapors. This slows down or even stops neural transmissions. Effects of inhalants include diminished ability to learn, remember, and solve problems.

Ecstasy

Extended use of this amphetamine causes difficulty differentiating reality and fantasy, and causes problems concentrating. Studies have found that ecstasy destroys certain cells in the brain. While the cells may re-connect after discontinued use of the drug, they don't re-connect normally. Like most drugs, this one impairs memory and can cause paranoia, anxiety, and confusion.

LSD

While some people use LSD for the sense of enhanced and vivid sensory experience, it can cause paranoia, confusion, anxiety, and panic attacks. Like Ecstasy, the user often blurs reality and fantasy, and has a distorted view of time and distance.

Steroids

Anabolic steroids are used to improve athletic performance and gain muscle bulk. Unfortunately, steroids cause moodiness and can permanently impair learning and memory abilities.

Tobacco

Tobacco is a dangerous drug, putting nicotine into your body. Nicotine affects the brain quickly, like other inhalants, producing feelings of pleasure, like cocaine, and is highly addictive, like heroin.

Methamphetamine

Known on the street as meth, speed, chalk, ice, crystal, and glass, methamphetamine is an addictive stimulant that strongly activates certain systems in the brain.

Ritalin

This drug is often prescribed to treat attention deficit disorder. It is becoming an illicit street drug as well. Drug users looking for a high will crush Ritalin into a powder and snort it like cocaine, or inject it like heroin. It then has a much more powerful effect on the body. It causes severe headaches, anxiety, paranoia, and delusions.

2.1.4 Diagnostic criteria for Drug Abuse and Dependence

Sarun Gorsanan, 2006 (31) said that diagnosis is the identifying and labeling specific conditions such as Drug Abuse and Dependence. Diagnostic criteria for Drug Abuse and Dependence reflect the consensus of researchers as to precisely which patterns of behavior or physiological characteristics constitute symptoms of the seconditions. There are many diagnostic criteria for Drug Abuse and Dependence but there are 2 diagnostic criteria that have been widely used and accepted i.e. the criteria of DSM IV and ICD 10.

2.1.4.1 The DSM criteria for Drug Dependence

The American Psychiatric Association, 2000 has developed clinical criteria of DSM-IV to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR) that is widely used for the diagnosis of substance-use related disorders (32).

The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR) ***DSM-IV-TR: Criteria for Substance Abuse***

A. A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12 – month period:

1) Recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home (e.g., repeated absences or poor work performance related to substance use; substance – related absences, suspensions, or expulsions from school; neglect of children or household)

2) Recurrent substance use in situations in which it is physically hazardous (e.g., driving an automobile or operating a machine when impaired by substance use)

3) Recurrent substance–related legal problems (e.g., arrests for substance – related disorderly conduct)

4) Continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance (e.g., arguments with spouse about consequences of intoxication, physical fights)

B. The symptoms have never met the criteria for Substance Dependence for this class of substance.

DSM-IV-TR: Criteria for Substance Dependence

A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring at anytime in the same 12 – month period:

1) Tolerance, as defined by either of the following:

a. A need for markedly increased amounts of the substance to achieve intoxication or desired effect.

b. Markedly diminished effect with continued use of the same amount of the substance.

2) Withdrawal, as manifested by either of the following:

a. The characteristic withdrawal syndrome for the substance. (Refer to Criteria A and B of the criteria sets for Withdrawal from the specific substances)

b. The same (or a closely related) substance is taken to relieve or avoid withdrawal symptoms.

3) The substance is often taken in larger amounts or over a longer period than was intended.

4) There is a persistent desire or unsuccessful efforts to cut down or control substance use.

5) A great deal of time is spent in activities necessary to obtain the substance, use the substance, or recover from its effects.

6) Important social, occupational, or recreational activities are given up or reduced because of substance use.

7) The substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance.

2.1.4.2 International Classification of Diseases-10 (ICD-10)

The World Health Organization, 1992 was developing diagnostic criteria for the purpose of compiling statistics on all causes of death and illness, including those related to alcohol abuse or dependence, worldwide. These criteria are published as the *International Classification of Diseases* (ICD) (33).

Dependence Syndrome (World Health Organization, 1992):

Diagnostic Guidelines: A definite diagnosis of dependence should usually be made only if three or more of the following have been present together at some time during the previous year:

1) A strong desire or sense of compulsion to take the substance;

2) Difficulties in controlling substance-taking behavior in terms of its onset, termination, or levels of use;

3) Progressive neglect of alternative pleasures or interests because of psychoactive substance use, increased amount of time necessary to obtain or take the substance or to the recover from its effects

4) Persisting with substance use despite clear evidence of overtly harmful consequences, depressive mood states consequent to heavy use, or drug related impairment of cognitive functioning.

5) Evidence of tolerance, such that increased doses of the psychoactive substance are required in order achieve effects originally product by lower doses.

6) A physiological withdrawal state when substance use has ceased or been reduced, as evidence by: the characteristic withdrawal syndrome for the substance; or use of the same (or a closely related) substance with the intention of relieving or avoiding withdrawal symptoms.

Thailand use both DSM and ICD10, 1999 as a diagnostic criterion for drug abuse and dependence. It is up to the researcher or institute policy (34).

2.2 The Gateway Hypothesis

The Gateway hypothesis was first proposed by Denise Kandel, 1975 (35) in her article “Stages in Adolescent Involvement in Drug Use.” The Gateway hypothesis is the idea that users of hard drugs such as cocaine and heroin follow a logical sequence that begins with licit substances (alcohol and tobacco) and then leads on to marijuana and ending with harder illicit substances. The model can be depicted as follows:

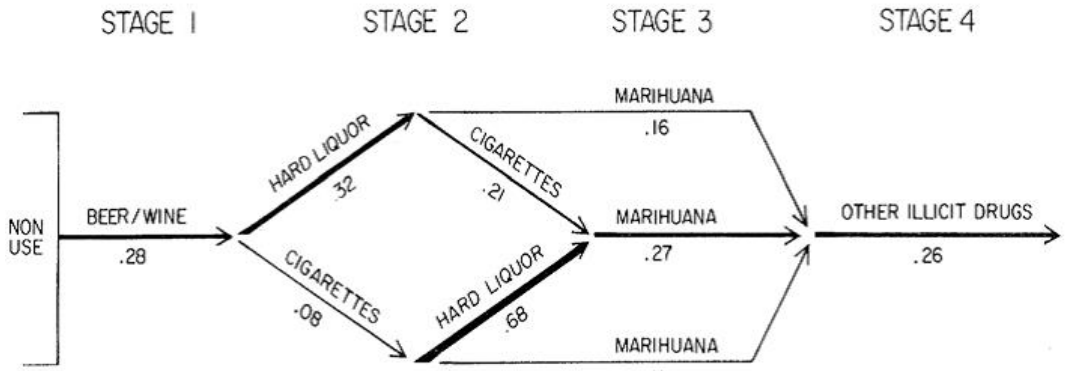


Figure 2.9 Stages of Drug Use

Kandel, using data from two longitudinal surveys given to a random sample of 5,468 New York state high school students, determined that there were four stages to drug use for those who progress to hard drugs. Kandel examined students' responses to questions regarding whether they had ever used and whether they had used in the past month any of 14 legal and illegal substances. Responses were used to establish a predicted sequence of use utilizing alcohol as the initial independent variable and other substances as both dependent (when following the use of another substance) and independent (when preceding the use of another substance) variables.

Guttman, 1943 (36) scaling allowed Kandel to determine which respondents followed the predicted sequence and which did not. Findings indicated that alcohol and tobacco use almost always preceded the use of marijuana, while marijuana use was an important stage preceding the use of harder drugs. For example, only one percent of illicit substance users failed to experiment with licit substances first. Additionally, only two to three percent of users proceeded to illicit substances from licit substances without using marijuana intermediately. Based on these findings, Kandel concluded that experimentation with marijuana was an important stage in drug use sequencing. In a follow-up study, additional empirical support for the Gateway Hypothesis was documented by Kandel and Yamaguchi, 2002 (37). The study relied on data from the National Household Survey on Drug Abuse, a national survey of non-institutionalized Americans over the age of 12. The authors analyzed the data in order to depict models of sequence for drug use for 21,000 individuals between the ages of

18 and 40. Using a log linear quasi-independence model, the authors found pathways of use consistent with the diagram first offered in Kandel's initial findings. It also was found that movement from one stage to the next was generally consistent with heavy use of a lower stage drug. In many cases marijuana users met the criteria for alcohol and/or tobacco addiction while cocaine users met the criteria for marijuana addition. The data also indicated that users who began experimenting at a young age tend to use more frequently and were at a higher risk for progressing to subsequent higher stages.

Kandel, Treiman, Faust and Single, 1974 (38) utilized self-reporting surveys with matched identification codes collected from 1,110 New York State schoolchildren and their parents to test peer influence and other demographic factors on drug use. The identification numbers allowed the researchers to create "adolescent-parent-best school friend triads". Multiple regression analysis was performed to determine which demographic variables had the greatest effect on respondent drug use. Findings indicate that frequency of peer drug use had the greatest overall effect on respondent drug use. Kandel et al. concluded that "the most important factor in marijuana use is the best friend's frequency of marijuana use".

Kandel and Yamaguchi, 1996 (39) used data from a New York state epidemiological survey of 7,611 students in grades 7-12 regarding the use of alcohol and/or other drugs. The authors used log-linear analysis and regression analysis with covariates to establish specific drug use sequences for the data set as a whole and for ethnic cohorts. Gateway hypothesis sequencing findings were consistent with past research for whites while some statistically significant variation was found for non-white cohorts. The more significant findings included: 1) for African-Americans, any licit drug use was a much weaker predictor of marijuana use, 2) while alcohol use was a much weaker predictor of marijuana use for Hispanics. These findings would seem to indicate that the Gateway sequence is a good predictor of drug use patterns for Whites but that other sequences may be better at predicting drug use sequences for non-whites.

Mills and Noyes, 1984 (40) utilized self-reporting questionnaires to survey 34,379 8th, 10th and 12th graders in Maryland in 1978 and 1979. A random sample of 2,036 was drawn for in-depth analysis. Using scalogram analysis and logistic regression, Mills and Noyes determined that the use of licit substances preceded the

use of illicit substances. Specifically, Mills and Noyes determined that alcohol and tobacco preceded the use of marijuana, which preceded the use of hard drugs. These findings support the gateway sequence proposed by Kandel.

In a study by Hawkins, Hill, Guo and Batton-Pearson, 2002 (41), a group of 808 Seattle school children were interviewed nine times over the course of 11 ½ years, beginning in the 5th grade, regarding their attitudes toward alcohol and drugs. The authors believed that the more favorably a drug was perceived, the more likely it was to be used earlier in a given sequence. Latent transition analysis was used to determine whether attitudes toward certain drugs became more or less favorable over time. The authors' findings correlated with Gateway hypothesis sequencing. The authors' found that respondents viewed alcohol more favorably than cigarettes; cigarettes more favorably than marijuana; and marijuana more favorably than hard drugs.

Golub and Johnson, 2002 (42) studied drug use sequences utilizing National Household Survey on Drug Abuse data and Arrestee Drug Abuse Monitoring data. The collection process for NHSDA data was described above. Arrestee Drug Abuse Monitoring (ADAM) data was gathered quarterly by interviewing arrestees at the time of their booking about their drug use. The data provided by some 7,713 arrestees was utilized in this study. Testing two hypotheses that inner-city New York residents would be less likely to follow the Gateway hypothesis sequence. Golub and Johnson, used transition diagrams to establish a drug use sequence. The authors found that their sequence was consistent with that of Kandel and that the overwhelming majority of users began with a licit substance, progressed to marijuana, and (for the small minority of users who do progress to stage 4) ultimately ended with harder substances.

Earleywine, 2002 (43) A frequently found misconception regarding the Gateway hypothesis is that it implies that the use of one drug (usually marijuana) causes the use of another drug. Kandel, 2002 (44) never contends that the use of one substance causes the use of another, more serious substance. Instead, she posits that there is an association between the use of one substance and the subsequent use of other substances later. Kandel argues that with regard to causation, other factors, such

as frequency of use, must also be examined. Frequency of use, she indicates, appears more closely tied to movement from one drug to the next than does mere use.

Even if the impetus is on whether the Gateway sequence has convincing empirical support, there remains concern that such research fails to fully support the hypothesized sequence. Tarter et al, 2006 (45) conducted a study utilizing diagnostic interviews in which 224 males between the ages of 10 and 12 were evaluated and re-evaluated at ages 16, 19, and 22. Using one-way analyses of variance on the responses to test the Gateway sequence, the authors determined, “that there is a high rate of non-conformance with this temporal order”. Specifically, the authors found that in neighborhoods where illicit drugs are readily available and where parental supervision is low, youths are likely to experiment with marijuana before experimenting with alcohol and/or tobacco products. The authors concluded that “consumption of marijuana prior to use of licit drugs appears to be related to contextual factors rather than to any unique characteristic of the individual”. Said findings were not rare, more than twenty percent of respondents reported using marijuana before alcohol and/or tobacco.

Bell, Ellickson and Hays, 1992 (46) found similar patterns in their study on drug use sequencing. The authors used longitudinal scalogram analysis to analyze the responses from 4,145 students between the 7th and 10th grades drawn from ten schools participating in a multi-year drug prevention experiment. In this study, the authors made a distinction between experimentation (simply trying a substance) and regular use (weekly), which allows them to be more specific in constructing sequencing. While the overwhelming majority of respondents followed the gateway sequence with regard to experimentation, a number of respondents, primarily ethnic minority respondents, followed different sequences when weekly use was the focus. For example, it was found that African-American students were as likely to use cigarettes before hard drugs as they were to use hard drugs before cigarettes. It was also found that among Asian students, regular alcohol use was found more at the end of the sequence than at the beginning.

2.3 Concept of Attitude

2.3.1 Definition of attitude

The concept of “Attitude” directs to the English word “Attitude”. After that, the Vocabulary Commandment Committees of Ministry of Education approved by the Royal Institute asks them to employ the word “Perspective” instead. Therefore, perspective has the same meaning as attitude, and relates importantly to human behavior.

Many psychologists and educators define it in different ways. For examples:

Rosenburg & Hovland, 1960 (47) defined that attitude as an inducement toward tendency in responding happened particular things.

Howard, 1963 (48) defined that attitude as the state of people readiness to express behavior evidently in supporting or objecting person, institution, situation, or idea.

Sherif & Muzafer, 1967 (49) defined that attitude as the process of readiness which makes people have positive or negative reaction to encouraging environment.

Murphy, et al., 1937 (50) defined that attitude as like or dislikes satisfaction or dissatisfaction of people shown evidently to anything.

Prapapen Suwan, 1983 (51) defined that attitude is the opinion consist of emotions. It is ready to perform particular reactions toward external situations.

Hem Thongchai, 1980 (52) defined that attitude means an inclining opinion or feeling in people’s minds affecting to something. After people experienced with that thing, attitude is the leaning regulator in expressing reaction with various reinforcements of people. Attitude can’t be measured directly but can measure from the behaviors which people express to that thing. It might be shown in the forms of belief, posture, or opinion. Normally, attitude has much or less need level and has direction. It can be divided into 3 types:

a. Cover Attitude. The characteristics of it are desire, approve, faith, acceptance and support: willingness to do.

b. Introvert Attitude. The characteristics of this kind is opposite with the first one such as dislike, dissatisfy, disagree, uncooperative and not follow.

c. Neutral Attitude. The characteristic of this type is indifferent: dislike or no hate.

Cherdsak Kowasin, 1984 (53) defined that attitude as people's feeling toward many things resulting from learning and experience. It also encourages a person to show behavior or a trend to respond that reinforcement either one way or others: support in go rejecting. Employing which way depends on learning process and socialization regulations. Again, attitude will appear evidently if that reinforcement is social reinforcement.

Buntham Kijpreedaborisut, 1988 (54) defined that attitude or perspective as a total action of people occurred from the mind tendency. And that attitude will influence to reinforcement either by supporting or approving, or by rejecting or disapproving to that reinforcement.

Paungrat Thaveerat, 1988 (55) defined that attitude as an abstract noun. It comes from Latin language "Aptus" meaning the readiness preparation of people's minds for doing one thing. Attitude is also an emotion found in everyone but is in different level.

In addition, it is a drive to make people react to reinforcement. The reinforcement might be a person or situational materials which the shown reaction might be dissatisfaction of satisfaction relying on the learning process and experience of each person.

Chaiyong Khamrat, 1991 (56) defined that attitude as an opinion or a feeling that is a mind readiness state. It comes from experience which is one part of reaction to people, thing or situation involved. Therefore, to explain the attitude in general, they are:

a. The state of mind and nerve: expressing evidently through behaviors.

b. The readiness to respond of people to all kinds of thing in accordance with happened attitude.

c. The things appear in form of system or group, and are systematized in their owns. That is to say, when an attitude occurs with environment, it will happen simultaneously. And there is the relationship between behavior and attitude.

d. The things obtained from experiences. The experiences assist to make attitude happens.

e. The important power influencing to behavior shown. A shown behavior displays to anything. It will be subjected to an attitude importantly.

f. The state of enough permanent minds. That is to say, an individual person has received knowledge and passed much learning. Anyway, attitude might be changed resulting from an environment influence.

According to the mentioned definitions, they show different views about "Attitude" obtained from scholars and psychologists. Those meanings consist of mind attitude, intelligent attitude and action attitude acting as important attitude factors.

2.3.2 Component of attitude

John, et al., 1988 (57) defined that attitude has 3 components, which are

a. Cognitive component or the comprehensive component includes thought, which is the component human use to think. Thought may have different forms depending on each individual.

b. Affective component is the emotional and sensational component that arouses "thought", which depends on an individual whether they have negative or positive feeling.

c. Behavioral component has tendency in producing behaviors. If there is a decent stimulus, a certain reaction or behavior will happen.

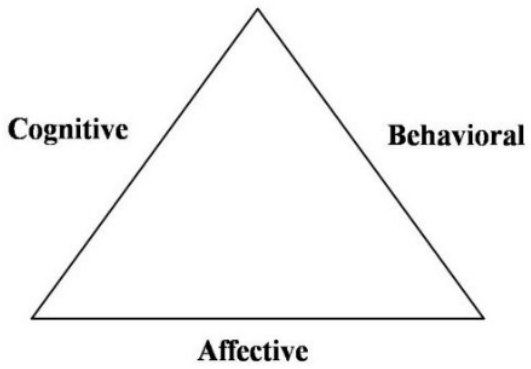


Figure 2.10 Triangle show attitude component (58)

It can be seen that if a person doesn't understand nor hasn't an idea called "Concept" dealing with something, that person certainly doesn't have an attitude toward that thing. The reason why many persons have different attitudes in something is because each person understands or has idea called "Concept" differently. Hence, the components involving to thinking, knowledge and understand are the basic components of attitude. Besides, these stated components will relate to a person's feeling. The person's feeling might be different: positive way and negative way in regard to material or phenomenon.

2.3.3 Attitude formation

Krech & Crutchfield, 1948 (59) defined that attitude might happen from the followings:

a. The response to a person's need. That is, whatever can respond a person's need, that person will have positive response to that thing. On the other hands, whatever can't respond a person's need, that person will have negative response to that thing.

b. The learning about many truths. This step might be obtained by reading or by being told by other persons. So, someone might have bad attitude toot hers by hearing gossip which anybody told previously.

c. The entrance to be member or to belong to one group. Most people often accept social attitude belonging to his/her own if that attitude doesn't contradict too much to his/ her own.

d. The relationship between attitude and personality of a person, who has good personality, often sees other persons in an optimistic way. On the contrary, a person who is difficult to adapt him/herself often thinks there is someone envies or thinks in the negative way to him/her.

Triandis, 1971 (60) claimed that vital sources to make people have attitude are:

a. Specific Experience. When people have specific experience with something either good or bad, it will make people have attitude that directs to the previous experience.

b. Communication with others. Communication with anybody will make people have attitude received by hearing news from another person.

c. Models. Imitation from other people makes attitude occur. For the first step, when an event happens, any person will notice how anyone else does. Then, people will interpret the meaning from that action in the form of attitude.

d. Institutional Factors. Most attitudes of people occur from the involvement with institutions such as family, school, or organization.

When considering sources of attitude, we can see that the one necessary element resulting people have attitudes to various things is communication. This is because no matter will attitude happen from specific attitude, communication with others, something used as a model or the involvement with institution, the attitude normally concerns with communication. That is to say, communication is much crucial factor to make people have attitude toward many things.

2.3.4 Type of attitude

Thongchai Santiwong, 1996 (61) defined that people can display attitude into 3types. They are:

a. Positive attitude refers to the attitude which persuades people to show action, to have feeling or to have emotion in responding in a good direction to other persons or some matters including with department, organization, institution and a work proceeding of other organizations. For instance, an agriculturist group absolutely has a positive attitude or a good feeling toward the agricultural cooperative. In addition, the persons in the agriculturist group might support, be a membership, or always join in any activity.

b. Negative or bad attitude means the attitude which makes a feeling becomes bad, isn’t respected or trusted. This kind might also include doubt. In addition, it will involve a hate toward somebody, matters, problems, organizations, institutions, or works proceeding of organizations. Besides, there are other situations occurred by negative attitude. For example, some officers or authorities might have negative attitude toward their company. When this situation happens, they will always have biases to try to behave or practice against the company regulations.

c. Not have attitude defines as the attitude which people completely don't show their opinions in any matter, problem, person, department, institution, and others. For example, some student might be silent meaning that he/she doesn't share his/her opinion toward disputable problem about student uniform regulations. Of all 3 mentioned attitude types, a person might have one type or more than one depending on the stabilities about thought, belief or other values toward a person, a thing, an action or a situation.

2.3.5 Attitude change

Kelman, 1958 (62) said that compliance is the attitude changing process which has pushing power to make people accept more or less action depending on an amount or strength of reward and punishment. On the contrary, identification is the attitude changing process which has pushing power to make a change whether more or less depending on a motivation of reinforcement toward a person. Hence, identification depends on a power of messenger and a need to change (Internalization). This attitude type happens when a person accepts influencing thing. This is because that thing directs to an internal need, values and want of that person. The changed behavior by this process will correlate with previous values.

Mcguire & Millman, 1965 (63) mentioned that the attitude changing concept utilizing social influence occurs from the belief that a person will develop his/her attitude in what direction depending on received information by other persons in a society.

Mcguire, 1968 (64) described the steps of attitude changing process which comprises of 5 steps. They are:

a. Attention

b. Comprehension

c. Yielding

d. Retention

e. Action

Krech & Crutchfield, 1971 (65) defined that attitude as the total result of procedure which forms motivation concept, acceptable feeling, and knowledge concern. This procedure is the attitude changing process, and can be divided into 3 ways:

a. Attitude change: communication

b. Attitude change: social influence

c. Attitude change: compliance, identification and internalization

Orawan Piranowath, 1994 (66) said that a messenger has to receive communication step by step. This is because a communication will be able to change an attitude as a whole in terms of process. Generally, in normal situation, the first step will happen before the other steps. The thing which makes attitude change is sources of attitude change. They might be one person, group, newspaper, radio, television or things to make attitude occur directly. In general, many sources will have different characteristics like capability, attraction, acquaintance, and friendship. From the study, it shows that the sources which have ability, acquaintance, attraction and authority will change attitude more than the sources which haven't. Moreover, there are other factors making attitude be changed such as contents of news, ways of sending news and news receivers. The attitude change will give various outcomes depending on many factors like anatomy, social stuff, and much more. Besides, it is believed that "age" has an effect toward personal attitude. For instance, adults are normally hard to adapt themselves to handle with environment change when compared with adolescents who are ready to change all the time.

2.3.6 Attitude measurement

The popular method to measure attitude is Likert Attitude Test (Likert Scale). It assigns every message found in any item of attitude measurement test to mean the score summation of any item found in attitude measurement test. Likert also says that whoever has an attitude toward something usually has an opportunity to respond more agreeably with a supporting statement. And the chance to agree with an opposite statement will be less. On the other hands, a person having bad attitude toward that thing will agree or support it less. And the chance to agree with opposite statement will be more.

The score summation of any item will be the indicator to understand an answerer's attitude found in the attitude test of each person. The methodology in creating the attitude test needs to gather information involved the study as much as possible. Then, bring gathered information to try with sample studied group by asking them to choose one answer from these: strongly agree undecided, disagree and strongly disagree for each item. The answerers don't have to be neutral in their minds like statement decision but just reply what they feel. To give scores, a researcher might employ the following criteria:

- Strongly agree = 5 scores
- Agree = 4 scores
- Undecided = 3 scores
- Disagree = 2 scores
- Strongly disagree = 1 score

If there are opposite statements, a checker gives 5 scores for "strongly disagree" and decreases gradually until the answer "strongly agree" = 1 score appears (67).

2.4 Concept of Knowledge

The Lexicon Webster Dictionary, 1973 (68) give meaning of "knowledge is means face, information and understanding that you have gained through or understanding and knowing about situation or event or the information you have about it.

Chum Pumipak, 1973 (69) said that "knowledge is structure process re-cognition" knowledge purpose is emphasizing in memorization recognize psychology, which concern to disciplinary process.

Nipa Manunpiju, 1977 (70) had given meaning that "knowledge is basis behavior by recognized through seeing or hearing. This refers to meaning, facts, theory, structure rule, dissolvable problem methods and standard.

To summarize, knowledge means learning memorization about information, method, structure process or things from a few complicated to many

complicated. Due to this research, knowledge means knowledge means gateway drugs and substance use.

2.5 Concept of Perceptions

Perception is the complex process. Generally, a person may understand that perception is seeing, hearing, smelling, touching with all 5 organs. As a matter of fact, it is involved more than that. Perception started when being touch, the message sent to the central nerve system to signal the collection of data, mixing with learning and past experiences before compiling data and linking with the central nerve control to create reaction. Then, it can be conclude that perception is the complex process that linked the past and present together, including the external stimulus and Central Nerve System and other organs in the body.

Many psychologists had given different meaning of perception as follows:

Chom Phumipak, 1983 (71) stated that perception is interpretation from the stimulus which is the process to find the meaning of the stimulus.

Sopha Chupikulchai, 1978 (72) stated that perception is the process where all organic matters tried to display their feelings from the things they have contacted with. The display is in certain form with definite meaning.

Daecho Sawananon, 1975 (73) mentioned perception as the body responded to the stimulus that came in contact with any senses.

Sucha Janaem et.al., 1975 (74) stated that perception is the process that individual experienced through objects or events by touching.

Somjai Laksana, 1976 (75) stated that perception is the interpretation from the body nerve system when touching external stimulus. Then, the body could tell about the object and its meaning.

Varin Saiobaae et.al., 1979 (76) stated that perception is the brain process to interpret the meaning of incoming data. From touching, a person would know about the stimulus he is touching, it shape and meaning based on the past experiences to help in the interpretation.

Praditnon Uparamai, 1980 (77) stated that perception is the process individual used with experiences or own knowledge after touching the stimulus to interpret its meaning.

Pranee Ramsoot, 1985 (78) mentioned that perception is the process when the body touched the surrounding and translate the meaning into knowledge and understanding based on own knowledge and experience.

Sungkom Phumipan 1987 (79) stated that perception is the external and internal energy consisted of sensation and interpretation of outcomes of previous experiences, such as knowledge , expectation, desire that had important influence toward human's perception and perhaps distorted perception. Listening is also important part of perception process, considered as communication skill, starting from hearing, leading to translation of meaning and continuous understanding.

Kanya Sangsuwan, 1989 (80) gave the meaning of perception as the use of previous experiences to translate the meaning of stimulus that the nerve system had come in contact with and create in-depth feeling to know the meaning.

Sereno and Bodaken , P. (cited Varaluk Teeramok, 1995) (81) defined perception as individual used his internal body system to extract data from external environment through subjective and creativity in steps: choosing, categorizing and assessing stimulus.

Varaluk Theramok gave the meaning of perception as the process with grouping and interpretation of data through all 5 senses by gathering past experiences. In another words, "Perception is the interpretation of sensory information".

Therefore, perception refers to the interpretation of stimulus seeing or relating to a certain environment through individual's experiences and learning. Perception can be learned depending on desire and responsibility.

2.6 Related Researches

Fergusson and Boden, 2006 (82) study examine the associations between the frequency of cannabis use and the use of other illicit drugs. They are a 25-year longitudinal study of the health, development and adjustment of a birth cohort of 1,265 New Zealand children. Found that the frequency of cannabis use was associated

significantly with the use of other illicit drugs, other illicit drug abuse/dependence and the use of a diversity of other drugs, and found to be particularly strong during adolescence but declined rapidly as age increased. Regular or heavy cannabis use was associated with an increased risk of using other illicit drugs, abusing or becoming dependent upon other illicit drugs, and using a wider variety of other illicit drugs. The risks of use, abuse/dependence, and use of a diversity of other drugs declined with increasing age. The findings may support a general causal model such as the cannabis gateway hypothesis.

Kirby and Barry 2012, (83) studied alcohol as a gateway drug: a study of US 12th graders found that alcohol represented the ‘‘gateway’’ drug, leading to the use of tobacco, marijuana, and other illicit substances. Moreover, students who used alcohol exhibited a significantly greater likelihood of using both licit and illicit drugs. They are findings from this investigation support that alcohol should receive primary attention in school-based substance abuse prevention programming, as the use of other substances could be impacted by delaying or preventing alcohol use. Therefore, it seems prudent for school and public health official to focus prevention efforts, policies, and movies, on addressing adolescent alcohol use.

Shenghan Lai and Hong Lai 2000, (84) studied the association between cigarette smoking and drug abuse in the United States. To examining the association between cigarette smoking and illegal drug use has not been thoroughly investigated. They have analyzed the 1994 National Household Survey on Drug Abuse to clarify whether cigarette smoking has any effect on the initiation of illegal drug use. Data from 17,809 respondents completing the 1994 "new" (1994-B) questionnaire were analyzed. Logistic regression analyses were performed with the use of statistical package SUDAAN, taking into consideration the multistage sampling design. The results show that those who had smoked cigarettes were far more likely to use cocaine (OR = 7.5; 95% CI: 5.7-9.9), heroin (OR = 16.0; 95% CI: 6.8-37.9), crack (OR = 13.9; 95% CI: 7.9-24.5) and marijuana (OR = 7.3; 95% CI: 6.2-8.7). The associations are consistent across age-strata and remain after adjusting for race and gender. The study suggests that cigarette smoking may be a gateway drug to illegal drug use.

Teerapon 2002, (85) there are a number of laws governing drug use currently in force in Thailand. The ones that remain central, despite that later

enactment of the Narcotic Addict Rehabilitation Act B.E. 2545 (2002), are the Psychotropic Substances Act B.E. 2518 (1975), the Narcotics Control Act B.E. 2519 (1976), and the Narcotics Act B.E. 2522 (1979). These Acts concentrate on banning the unauthorized production, consumption, possession and sale of a wide range of drugs. Controlled narcotic substances are enumerated in Categories I-V of the Narcotics Act B.E. 2522 (1979). Category I drugs include heroin, amphetamine, methamphetamine (commonly known as ya ba or ya ma), ecstasy and lysergic acid diethylamide (LSD). Category II drugs include coca leaf, cocaine, codeine, morphine and methadone. Category V drugs include cannabis and the kratom plant (86).

Ousa Biggins 2013, (87) studies the factors that affect drinking and driving motorcycles in Bangkok. The results showed that youth groups fear the severity of the penalties, but some people are not afraid of the offense (drunk driving), because the police are not strict in enforcing the law, so as the offender can evade the law. Social environment is an important factor of the offense, such as drinking and selling alcohol in the community.

Krisda Charoenpibul 2009, (88) study the correlation between knowledge, attitude and alcohol drinking among Thai people and also observe their drinking behavior by drawing data from samples that had been living and working in the surrounding areas of Kanchanaburi province. Samples were selected by stratified random sampling. It was found that all samples had moderate knowledge on alcoholic beverages and a correlation between knowledge on alcoholic beverages and alcohol drinking was established at the statistically significant level of 0.01. Meanwhile, attitudes were also correlated with alcohol drinking at the statistically significant level of 0.01. Furthermore, there was a minor correlation between knowledge and attitudes, at the statistically significant level of 0.01.

Krittin Chumkaew 2014, (89) examine the relationships among their knowledge of, attitude toward, and behavior toward food consumption. A questionnaire was employed to gather data from 400 elderly people selected by multi-stage random sampling. Most of the elderly’s knowledge of and attitude toward food consumption were at a good level whereas half of the elderly’s food consumption behavior was at a moderate level. Knowledge of, attitude toward, and behavior toward food consumption were positively and highly statistically significant correlated. The

stepwise multiple regression showed that “avoid salty food”, “consuming brown rice”, “eating legumes”, “avoid fatty meat”, “eating rice as the main food”, and “eating five food groups” were positively correlated with and influenced food consumption behavior, while “avoid seafood” was negatively correlated with and statistically significantly influenced food consumption behavior. In addition, attitudinal aspects that positively correlated with and influenced food consumption behavior were “avoid fatty meat”, “consuming brown rice”, “drinking skim milk”, “eating rice as the main food”, “avoid alcoholic beverage”, and “avoidsalty food” whereas “avoid food with chemical” and “drinking milk regularly” were negatively correlated with and statistically significantly influenced food consumption behavior.

Amonrat Ratanasiri 2014, (90) study the attitude and general knowledge of Medical students at Khon Kaen University (KKU), Thailand concerning cigarette smoking. The study examines the relationship between knowledge, attitude to smoking and smoking habits. Certain socio-economic factors known to influence smoking behavior were controlled in this study. The population used in this research was the medical students studying in the first and fifth years in the faculty of Medicine, Khon Kaen University, Thailand during the academic year 1987-1988. A total number of 145 responses were returned out of possible 192. The questionnaires were analyzed and the chi-squared test was used to test the hypothesis. The study shows that most medical students are nonsmokers with less females smoking than males. A relationship was found between knowledge of the effects of smoking and year of study. Fifth year students have greater knowledge than the first years. A relationship was also found between attitude and year of study; the first year medical students had a better attitude than the fifth years. In addition, it was discovered that some specific combinations of attitude and opinion have a relationship with smoking habits (non-smokers, daily and occasionally smokers) at a significance level of $P<0.05$.

CHAPTER III
RESEARCH METHODOLOGY

This chapter describes the methodology used for this study; they are research design, sampling procedures involving data collection, application of instruments, and statistics used for data analysis.

3.1 Research Design and Study area

This is a cross-sectional study which aims to examine gateway of drugs addicted patient in the Princess Mother National Institute on Drug Abuse Treatment.

3.2 Population and sample

Regarding sample selection, all patients who were treated during the data collection period were selected purposively according to the inclusion criteria. In this study, the inclusion criteria demanded that the patient were:

1. Those who were enrolled as inpatients that were large groups of drug dependent inpatients, and it was also their first admission to the Princess Mother National Institute on Drug Abuse Treatment.
2. Those who had no complication, such as hallucinations or delusions in the pre-admission stage.
3. Those who were willing to participate in the research.
4. The researcher was able to contact them.
5. They were able to understand and communicate in Thai.

The exclusion criteria are as follow:

1. Patients who were diagnosed by a physician with psychotic disorders.
2. Patients whose age was less than 18 years old.

3.3 Sample size

The number of samples to be included in this study is selected in order to be statistically the target population. The method programmed by Taro Yamane, 1960 (91) was employed for calculating the sample size as follows.

$$n = \frac{N}{1 + Ne^2}$$

When n = Size of the sample

N = the number of population unit

e = the standard deviation 0.05 significant

At the population of 3,532 (92) and deviation size 0.05, the size of sample (n) was calculated as

$$n = \frac{3,532}{1+ 3,532(0.05)^2}$$

$$n_p = 400$$

Thus, the calculated number of the sample size was 400 cases. It also increased 10% of sample size which made 440 cases. This study is a purposive sampling by using exclusive criteria for identifying the people who were unconcerned.

3.4 Research Instruments

The instruments for the data collection of the study were questionnaire forms. The questionnaire were divided into 4 parts, as follows:

Part 1 Demographic characteristics of patient, sex, age, habitat, education level and parenting. Household environments and community association.

Part 2 The general situation and sequences of the gateway in addicted patients and the patterns of gateway drugs in addicted patients.

Part 3 Knowledge toward gateway drugs and substance use. There were 9 question altogether in this part. Criteria for allocating the scores for this part of the questionnaire were that one point would be given for the correct answer but if the answer was wrong then no point would be given. Every question has correct mean. The questions that have highest score means that the participants have a correct knowledge about gateway drugs and substance use and the lowest score means incorrect knowledge about gateway drugs and substance use.

The questions that have negative meanings are 4 and 5, whereas the other questions have positive meanings. The Scoring of this edition of the inventory included positive and negative question, as follows:

Positive questions are 1, 2, 3, 6, 7, 8, and 9. The meaning of the answer is, true = 1 point, false = 0 point.

Negative questions are 4 and 5. The meaning of the answer is, true = 0 point, false = 1 point.

The level of knowledge can be set by the following standard criteria (93). The overall scores were divided into three levels as follows:

High level of knowledge = Those who obtained a total score between 6.01 and 9.00 point (above 66.0% of the total score, which was 9 point)

Medium level of knowledge = Those who obtained a total score between 3.00 and 6.00 point (above 33.0-66.0% of the total score, which was 9 point)

Low level of knowledge = Those who obtained a total score between 0.00 and 2.99 point (lower than 33.0% of the total score, which was 9 point)

Part 4 Attitudes toward gateway drugs and substance use. The criteria for this section used a Likert scale with 5 levels (94). There were 20 questions, so total scare was 80 points. The questions that have negative meanings are 4, 10, 11, 12, 20 and the other remaining questions have positive meanings.

The score for the answers are follows:

	Positive behavior	Negative behavior
Very low	0	4
Low	1	3
Moderate	2	2
High	3	1
Very high	4	0

The score for the answers are follows:

High level of knowledge = Those who had score between 53.34 and 80.00 point (above 66.0% of the total score, which was 80 point)

Medium level of knowledge = Those who obtained a total score between 26.67 and 53.33 point (above 33.0-66.0% of the total score, which was 80 point)

Low level of knowledge = Those who obtained a total score between 0.00 and 26.66 point (lower than 33.0% of the total score, which was 80 point)

3.5 Validity and reliability testing

3.5.1 Validity

Content and feature validity for demographic characteristics questionnaire, sequences and patterns of the gateway in addicted patients questionnaire, knowledge toward gateway drugs and substance use questionnaire and attitude toward gateway drugs and substance use questionnaire, were performed by an experienced person who evaluated appropriateness, clarity, language and content.

3.5.2 Reliability

The questionnaire was applied to drug addict patients at Clinical drug therapy Drug Abuse Prevention and Treatment Bangkok. Division; according to the nature of the study population consisted of 44 person (10% of sample size) and determines the reliability of the questionnaire using the Cronbach Alpha coefficient in the formula (95)

$$\alpha = \frac{K}{K-1}\left(1 - \frac{\sum_{i=1}^{K} \sigma_{Y_i}^2}{\sigma_X^2}\right)$$

Where α = Reliability of the questionnaire

K = Is the number of components (K-items or test lets)

σ_X^2 = The variance of the observed total test scores, and

$\sigma_{Y_i}^2$ = The variance of component I for the current sample of persons.

The reliability of attitude about gateway drugs and substance use questionnaire was 0.81.

The reliability of knowledge toward gateway drugs and substance use questionnaire was determined using Kuder - Richardson reliability coefficient formula (96) that was 0.55.

3.6 Protection of human subjects

This study was well aware of research ethics and prior to data collection; the thesis proposal was submitted to the ethics committee at the Princess Mother National Institute on Drug Abuse Treatment. To collect the data, the researcher was explained the objectives and details of study before starting the questionnaire distribution. The participating samples were informed for the protection of their rights and agreement, and they signed the consent form. The participants were given the questionnaire with the absolutely understanding that the information would be kept confidential and was being presented as a whole picture with the objective of

extending the benefits of the study. During the period of time for data collecting procedure, the participant could withdrawal at anytime of the process without indicating any reason and it completely unaffected the sample.

3.7 Data Collection

Research dealing between the patients for assistance in data collection and the researcher was done as follows:

1. Bring the letter from Graduate Mahidol University for assistant director of the Princess Mother National Institute on Drug Abuse Treatment (Thanyarak) in order to cooperate in the questionnaire distributed to a sample of 440 patients and to facilitate collaboration in research.

2. The appointment was made with patient sample on date and time to distribute the questionnaire and returned it manually.

3. Completed questionnaires were analyzed. Numbers of questionnaires completed have 440 series.

4. The researcher analyzed the data with appropriate statistical methods.

3.8 Data Analysis

All data were analyzed, using program SPSS version 18.0, at significance level of 0.05 as follows:

1. Descriptive analysis

Demographic characteristics of the study subject will be presented by frequency, percentage, means, median and standard deviation.

2. Analytic analysis

- The statistics method for patterns of gateway drugs in addicted patients was used to t-test.

- The Chi-Square was used to find relationship of each independent factor related to patterns of gateway drugs in addicted patients.

CHAPTER IV
RESULTS

This cross-sectional study was conducted to the examining gateway of drug and substance abuser and perception, knowledge, and attitude on gateway to use illegal drugs among addicted drugs patient. The data were collected from September to November 2013 by involves simple random sampling without replacement 440 cases in The Princess Mother National Institute on Drug Abuse Treatment.

The Study Results are presented as Follow:

4.1 Descriptive

4.1.1 Demographic characteristics of patient, household environments, and community association.

4.1.2 Age of addicted patients and age onset of drug and substances abuse.

4.1.3 The general situation and sequences of the gateway in addicted patients.

4.1.4 Mean, Standard devision, and percentage of knowledge on gateway drugs in addicted patients.

4.1.5 Mean, Standard devision, and percentage attitude of gateway drugs in addicted patients.

4.2 Analytical

The results of the relationship between variable factors and the patterns of gateway drugs in addicted patients by

4.2.1 The patterns of gateway drugs in addicted patients.

4.2.2 Chi-Square was use to relationship each independent factor related to patterns of gateway drugs in addicted patients.

4.1 Descriptive

4.1.1 Demographic characteristics of addicted patients

Samples of this study comprised 440 cases who were addicted patients in The Princess Mother National Institute on Drug Abuse Treatment. The demographic characteristics of addicted patients consist sex, age, marital status, education level, status of parents, county of residence, the living, who is the most intimate and parenting, relationships in the family, relationship with your family, expression your family has a conflict, initial stages of substance use before using drugs, first time of place for substance abuse, causes of substance abuse for the first time, can find the drug and substance abuse as showed in table 4.1

Table 4.1 Demographic characteristics of addicted patients.

Variables	N = 440	
	n	%
Sex		
Male	285	64.8
Female	155	35.2
Age		
15-20 Years	55	12.5
21-25 Years	100	22.7
26-30 Years	110	25.0
31-35 Years	87	19.8
36-40 Years	51	11.5
41-46 Years	24	5.5
46 up	13	3.0
(Min = 18, Max = 56, Mean = 29.30, S.D = 7.629)		
Marital Status		
Single	245	55.7
Married	131	29.8
Divorced	10	2.2
Widowed	13	3.0
Separated	41	9.3
Education		
Primary	145	33.0
Secondary School	163	37.0
Vocational and High School	89	20.2
High Vocational, Bachelor Degree and Higher	42	9.5
Uneducated	1	0.3

Table 4.1 Demographic characteristics of addicted patients. (cont.)

Variables	N = 440	
	n	%
Status of parents		
Living together	171	38.9
Separated	94	21.4
Divorced	39	8.8
Father died	77	17.5
Mothers died	24	5.4
Father and mother died	35	8.0
County of residence		
Bangkok and perimeter	224	51.0
Upcountry	196	44.5
Warren	20	4.5
types of living quarters		
House	324	73.6
Townhouse	27	6.2
Apartment	45	10.2
House rentals	25	5.7
Condominium	7	1.6
Flat	8	1.8
Others	4	0.9

The data from Table 4.1 showed that addicted patients at admitted to The Princess Mother National Institute on Drug Abuse Treatment amount 440 person, 285 males (64.8%) and 155 females (35.2%) were selected for data survey. It was found that majorities of the samples were single (55.7%), and followed by married status (29.8%). Sample having mean age of 29.30 years with the highest age 56 years and the lowest age 18 years. The data also showed that most samples (37.0%) graduated with secondary school, and followed by primary (33.0%), and followed vocational and High School (20.2%) respectively. The data also showed that most samples (38.9%) parents has by living together, and followed by separated (21.4%), and followed by father died (17.5%) respectively. The data also showed that most samples (51.0%) county of residence live in Bangkok and perimeter, and live in upcountry (44.5%). It was found that majorities of the samples were the living in house (73.6%), and followed by the living in apartment (10.2%).

Table 4.2 Relationships in the family of addicted patients

Variables	N = 440	
	n	%
Who is the most intimate and parenting.		
Father / Mother	306	69.5
Grandfather / Grandmother	61	13.9
Brother / Sister	28	6.3
Uncle / Aunt	28	6.3
Without	15	3.5
Patron	2	0.5
Relationships in the family		
have loved, care and binding very much	219	49.8
have loved, care and binding is reasonable	162	36.8
have loved, care and binding is less	59	13.4
Relationship with your family		
have loved, care and binding very much	201	45.7
have loved, care and binding is reasonable	182	41.3
have loved, care and binding is less	57	13.0
When your family has a Conflict. They will is expression by…		
Talk, understand and consultants. But, they are sympathy for each other.	221	50.2
Talk, understand and consultants. If the violence is you not see.	94	21.4
Sometimes is use of violence.	108	24.5
Often used of violence.	17	3.9

The data for relationships in the family of addicted patients found that most samples live with father and mother (69.5%), and live with grandfather or grandmother (13.9%). For relationships in the family of addicted patients found that most have loved, care and binding very much (49.8%) and have loved, care and binding is reasonable (36.8%) respectively. The relationship between family and

addicted patients found that most have loved, care and binding very much (45.7%) and have loved, care and binding is reasonable (41.3%). If family has a conflict, they are talk, understand and consultants, they are sympathy for each other (50.2%), and they have sometime used violence (24.5%) respectively.

Table 4.3 Behaviors use drug and substance abuse in the first time of addicted patients

Variables	N = 440	
	n	%
The initial stages of substance use before using drugs.		
County of residence.		
Smoking only	193	43.9
Drink only	25	5.7
Smoking and drinking	169	38.4
Drug use	53	12.0
Place for substance abuse in the first time.		
Home	105	23.9
Friend's house	207	47.0
Dorm	41	9.3
Restaurant	9	2.0
Nightlife	5	1.1
The Community	8	1.9
Public place	1	0.2
School	29	6.7
Academy	9	2.0
Girlfriend's houses / Boyfriend's houses	8	1.8
Girlfriend's Condo / Boyfriend's Condo	6	1.4
Cornfield	12	2.7
Causes of substance abuse for the first time.		
Persuade a friend	102	23.2
Want to try	261	59.3
Forced	2	0.5
For the swanky	6	1.4
Stress or uneasy	35	8.0
Encourages fun	17	3.8
Join a group	8	1.8
Lose weight	2	0.5
Others	7	1.5
You can find the drug and substance abuse.		
Grocery stores	21	4.8
Minimarket	1	0.2
Temporary Shop	1	0.2
Restaurant	2	0.5
Pub or bar	14	3.2
Shopping mall	1	0.2
With friends in the community	330	75.0
Girlfriend	13	3.0
Trade itself	48	10.9
Other	9	2.0

The data form table 4.3 showed that initial stages of substance use before using drugs found that the most have smoke only (43.9%), smoke and drink (38.4%) respectively. It was found that majorities the first time for use drugs and substance abuse in friend's house (47.0%), and Their own home (23.9%). It was found that majorities the causes of substance abuse for the first time in the samples were want to try (59.3%), and followed by the persuade a friend (23.2%), and followed by stress or uneasy (8.0%) respectively. It was found that majorities can find the drug and substance abuse with friends in the community (75.0%).

4.1.2 Age of addicted patients and age onset of drug and substances abuse.

Table 4.4 Age of addicted patients and age onset of drug and substances abuse

Age	Male		Female	
	N	%	N	%
Age of addicted patients				
15-25 years	113	39.6	42	27.1
26-35 years	115	40.4	82	52.9
36-45 years	49	17.2	26	16.8
46 up	8	2.8	5	3.2
Male (Min = 18, Max = 54, Mean = 28.66), Female (Min = 18, Max = 56, Mean = 30.57)				
Age onset of drug and substances abuse				
10-20 years	251	88.1	106	68.4
21-30 years	30	10.5	42	27.1
31-40 years	4	1.4	7	4.5
Male (Min = 10, Max = 38, Mean = 16.74), Female (Min = 10, Max = 40, Mean = 20.14)				

The data showed that age of addicted patients, male having mean age of 28.66 years with the highest age 54 years old and the lowest age 18 years old and female having mean age of 30.57 years with the highest age 56 years old and the lowest age 18 years old .

The data also found that age onset of drug and substances abuse of addicted patients, male having mean age of 16.74 years with the highest age 38 years old and the lowest age 10 years old and female having mean age of 20.14 years with the highest age 40 years old and the lowest age 10 years old.

4.1.3 The general situation and sequences of the gateway in addicted patients.

Table 4.5 The general situation and sequences of the gateway in addicted patients

Sex	Sequences of the gateway substance abuse and drugs use				
	1	2	3	4	5
Both sexes (N = 440)	Cigarette 348 (79.1%)	Alcohol 233 (53.0%)	Methamphetamine 158 (35.9%) or Marijuana 94 (21.4%)	Ice 82 (18.6%) or Methamphetamine 80 (18.2%)	Ice 69 (15.7%)
Male (N = 285)	Cigarette 253 (88.8%)	Alcohol 177 (62.1%)	Methamphetamine 112 (39.3%) or Marijuana 83 (29.1%)	Methamphetamine 66 (23.2%) or Ice 47 (16.5%)	Ice 58 (20.4%)
Female (N = 155)	Cigarette 95 (61.3%)	Alcohol 55 (36.2%) or Methamphetamine 42 (27.1%)	Methamphetamine 46 (29.7%) or Ice 31 (20.0%)	Ice 35 (22.6%) or Methamphetamine 14 (9.0%)	Marijuana 12 (7.7%) or Ice 11 (7.1%)

The general situation and sequences of the gateway in addicted patients 440 person. The data sequences of the gateway in addicted patients showed that most samples the first step is smoking cigarette number 348 person (79.1%), the second step is drinking alcohol number 233 person (53.0%), the third step is use methamphetamine number 158 person (35.9%) or use marijuana number 94 person (21.4%), the fourth step is use ice number 82 person (18.6%) or use methamphetamine number 80 person (18.2%), or the fifth step is use ice number 69 person (15.7%) respectively.

The general situation and sequences of the gateway in male addicted patients 285 person. The data sequences of the gateway in male addicted patients showed that most samples the first step is smoking cigarette number 253 person (88.8%), the second step is drinking alcohol number 177 person (62.1%), the third step is use methamphetamine number 112 person (39.3%) or use marijuana number 83 person (29.1%), the fourth step is use methamphetamine number 66 person (23.2%) or use ice number 47 person (16.5%), and the fifth step is use ice number 58 person (20.4%) respectively.

The general situation and sequences of the gateway in female addicted patients 155 person. The data sequences of the gateway in female addicted patients showed that most samples the first step is smoking cigarette number 95 person (61.3%), the second step is drinking alcohol number 55 person (36.2%) or use methamphetamine number 42 person (21.1%), the third step is use methamphetamine number 46 person (29.7%) or use ice number 31 person (20.0%), the fourth step is use ice number 35 person (22.6%) or use methamphetamine number 14 person (9.0%), and the fifth step is use marijuana number 12 person (7.7%) or use ice number 11 person (7.1%) respectively.

4.1.4 Mean, Standard devision, and percentage of knowledge on gateway drugs in addicted patients.

Table 4.6 Knowledge of gateway drugs in addicted patients

Knowledge of gateway drugs	Mean	S.D	Percentage of knowledge
1. Cigarette is a type of drug that is legal.	0.93	0.264	92.5
2. Alcohol is a type of drug that is legal.	0.93	0.252	93.2
3. Marijuana is a type of drug that is illicit.	0.69	0.464	68.9
4. Using occasionally cigarette, alcohol, and marijuana cannot be addiction.	0.64	0.482	63.6
5. Drinking alcohols make appetite and blood convenience.	0.71	0.454	71.1
6. Smoking causes cancer.	0.96	0.198	95.9
7. Drinking alcohol causes cirrhosis and liver cancer.	0.98	0.149	97.7
8. Smoking is a first step of drugs that is more severe.	0.84	0.366	84.1
9. Drinking alcohol is a first step of drug that is more severe.	0.73	0.442	73.4

The data in the table 4.6 showed that total score of knowledge about gateway to use illegal drugs in addicted patients was 8.22 points that is high level knowledge (lower at 0 point maximum scores 9 point). The questions that have negative meanings are 4 and 5, whereas the other questions have positive meanings. The every question has all right meant. The questions that have highest score mean are well knowledge about gateway drugs and the lowest score meaning is poor knowledge about gateway drugs. The questions that addicted patients have highest mean is drinking alcohol causes cirrhosis and liver cancer. The questions that addicted patients have lowest mean is using occasionally cigarette, alcohol, and marijuana cannot be addiction; the second is marijuana is a type of drug that is illicit.

Table 4.7 Levels of knowledge gateway drugs in addicted patients

Levels of Knowledge on gateway drugs	Frequency	Percentage
Low level (0.00-2.99)	1	0.2
Medium level (3.00-6.00)	36	8.2
High level (6.01-9.00)	403	91.6
Mean = 2.913, S.D = 0.289 Min = 1 Max = 3		

The data in table 4.7 the levels of knowledge gateway drugs in addicted patients found that low and high level of knowledge about gateway drugs are found that low level of knowledge about gateway is 0.2%; medium level of knowledge about gateway is 8.2% and high level of knowledge about gateway is 91.6%. The almost addicted patients were high level in knowledge about gateway.

4.1.5 Mean, Standard devision, and percentage attitude of gateway drugs in addicted patients

Table 4.8 Attitude of gateway drugs in addicted patients.

Attitude of gateway drugs	$\overline{x}$	S.D
1. Smoking leads to more severe drug use.	2.68	1.12
2. Drinking alcohol leads to more severe drug use.	2.41	1.15
3. Smoking marijuana leads to more severe drug use.	2.45	1.21
4. Marijuana is a drug that without physical violence against.	2.38	1.34
5. Broken family is a major cause of the addiction.	2.90	1.16
6. Training and teaching of family influence does not interfere with the drug.	2.90	1.10
7. Children in families who care for a parent or guardian will not interfere with the drug.	2.61	1.21
8. Mingling with friend will be induced to smoke, drink, and finally addiction easily.	3.28	0.96
9. Experimental smoking and drinking alcohol because of curiosity only once, Will lead to other drug use.	2.82	1.16
10. Smoking and drinking to reduce anxiety.	2.19	1.30
11. Cigarette alcohol making dare to say, dare to do, and assertive.	1.91	1.37
12. Alcohol making dare to say and dare to do.	1.52	1.25
13. You filling ashamed it your friend smoking.	1.20	1.13
14. You filling ashamed it your friend drinking alcohol.	1.14	1.06
15. You do not like when people smoke in the area where you live.	1.65	1.17
16. You do not like when people drinking alcohol in the area where you live.	1.67	1.14
17. You feel very sorry when someone in your family smoking and drinking.	2.02	1.18
18. You do not like friend who smoke.	1.21	1.11
19. You do not like friend who drinking alcohol.	1.27	1.17
20. If you refuse smoking or drinking invitation, you will not be expelled from the group friend	3.33	1.06
Min = 0 Max = 4		

The data in the Table 4.8 showed that total score of attitude about gateway to use illegal drugs in addicted patients was 3.35 points that is high level attitude (lower at 0 point maximum scores 4 point). The questions that have negative meanings are 4, 10, 11, 12, 20 and the other remaining questions have positive meanings. The questions that have highest score mean is the most negative attitude toward to gateway drugs and the lowest score mean is the most positive attitude toward to gateway drugs. The questions that addicted patients have highest mean is refuse smoking or drinking invitation, you will not be expelled from the group friend; the second is mingling with friend will be induced to smoke, drink, and finally addiction easily. The questions that addicted patients have lowest mean is filling ashamed it your friend drinking alcohol; the second is filling ashamed it your friend smoking; the third is do not like friend who smoke.

Table 4.9 Levels of attitude gateway drugs in addicted patients.

Levels of attitude gateway drugs	Frequency	Percentage
Low level (0.00-26.66)	11	2.5
Medium level (26.67-53.33)	370	84.1
High level (53.34-80.00)	59	13.4
Mean = 2.109, S.D = 0.384 Min = 1 Max = 3		

The data in table 4.9 levels of attitude gateway drugs in addicted patients found that low and high level of attitude about gateway drugs are found that low level of attitude about gateway drugs and substance use are 2.5%; medium level of attitude about gateway drugs and substance use are 84.1% and high level of attitude about gateway drugs and substance use are 13.4%. The almost addicted patients were medium level in attitude about gateway drugs and substance use.

4.2 Analytical

Number and proportion patterns of gateway drugs in addicted patients. Attitude toward gateway to use illegal drugs in addicted patients and knowledge about of gateway drugs addicted patients.

4.2.1 The patterns of gateway drugs in addicted patients.

Table 4.10 The patterns of gateway drugs in addicted patients.

Sexes	Pattern of gateway					Total
	Cigarette Alcohol Marijuana	Cigarette Alcohol Methamphetamine	Cigarette Methamphetamine Ice	Cigarette Marijuana Methamphetamine	Other	
Male	75	86	23	6	95	285
Female	7	33	22	4	89	155
Total	82	119	45	10	184	440

Table 4.11 The patterns of gateway drugs in male and female.

patterns of gateway drugs in addicted patients	Frequency	Percentage	P - value
Cigarette Alcohol Marijuana	82	18.6	0.000
Cigarette Alcohol Methamphetamine	119	27.0	0.000
Cigarette Methamphetamine Ice	45	10.2	0.000
Cigarette Alcohol Ice	1	0.2	0.318
Cigarette Marijuana Methamphetamine	10	2.3	0.001
Cigarette Methamphetamine Marijuana	1	0.2	0.318

Form data in table 4.10 and table 4.11 showed that the patterns of gateway drugs in addicted patients amount 440 persons. The patterns of gateway drugs found that the most in addicted patients had the patterns cigarette - alcohol - methamphetamine amount 119 persons (27.0%) ($P < .05$), and followed by had the patterns cigarette - alcohol - marijuana amount 82 persons (18.6%) ($P < .05$), and followed has the patterns cigarette - methamphetamine - ice amount 45 persons

(10.2%) (P < .05), and followed had the patterns cigarette - marijuana - methamphetamine amount 10 persons (2.3%) (P < .05) respectively.

Table 4.12 The patterns of gateway drugs in male.

patterns of gateway drugs in male	Frequency	Percentage	P - value
Cigarette Alcohol Marijuana	75	26.3	0.000
Cigarette Alcohol Methamphetamine	86	30.2	0.000
Cigarette Methamphetamine Ice	23	8.1	0.000
Cigarette Marijuana Methamphetamine	6	2.1	0.014
Cigarette Methamphetamine Marijuana	1	0.4	0.318

Form data table 4.12 showed that the patterns of gateway drugs in male addicted patients amount 285 persons. The patterns of gateway drugs found that the most in addicted patients had the patterns cigarette - alcohol - methamphetamine amount 86 persons (30.2%) (P < .05), and followed by had the patterns cigarette - alcohol - marijuana amount 75 persons (26.3%) (P < .05), and followed has the patterns cigarette - methamphetamine - ice amount 23 persons (8.1%) (P < .05), and followed had the patterns cigarette - marijuana - methamphetamine amount 6 persons (2.1%) (P < .05), respectively.

Table 4.13 The patterns of gateway drugs in female.

patterns of gateway drugs in female	Frequency	Percentage	P - value
Cigarette Alcohol Marijuana	7	4.5	0.008
Cigarette Alcohol Methamphetamine	33	21.3	0.000
Cigarette Methamphetamine Ice	22	14.2	0.000
Methamphetamine Ice Cigarette	6	3.9	0.025
Cigarette Alcohol Ice	1	0.6	0.319
Cigarette Marijuana Methamphetamine	3	2.1	0.075
Cigarette Methamphetamine Marijuana	4	2.6	0.045

Form data table 4.13 showed that the patterns of gateway drugs in female addicted patients amount 155 persons. The patterns of gateway drugs found that the most in addicted patients had the patterns cigarette - alcohol - methamphetamine amount 33 persons (21.3%) ($P < .05$), and followed has the patterns cigarette - methamphetamine - ice amount 22 persons (14.2%) ($P < .05$), and followed by had the patterns cigarette - alcohol - marijuana amount 7 persons (4.5%) ($P < .05$), and followed had the patterns methamphetamine - ice - cigarette amount 6 persons (3.9%) ($P < .05$), respectively.

4.2.2 Chi-Square was use to relationship each independent factor related to patterns of gateway drugs in addicted patients.

Table 4.14 Chi-square analysis of the relationship between knowledge level and pattern Cigarette Alcohol Methamphetamine.

Knowledge level	Pattern Cigarette Alcohol Methamphetamine		Other pattern gateway drugs		Total
	N	(%)	N	(%)	
Low level (0.00-2.99)	1	100.0	0	0.0	1
Medium level (3.00-6.00)	9	25.0	27	75.0	36
High level (6.01-9.00)	109	27.0	294	73.0	403
Total	119	27.0	321	73.0	440
$\lambda^2 = 2.774$ df = 2 p-value = 0.25					

Findings from analysis suggested no associations between knowledge about gateway drug with pattern Cigarette - Alcohol - Methamphetamine, whereas samples with high level knowledge 27.0 percent (see Table 4.14 for details).

Table 4.15 Chi-square analysis of the relationship between attitudes level and pattern Cigarette Alcohol Methamphetamine.

Attitudes level	Pattern Cigarette Alcohol Methamphetamine		Other pattern gateway drugs		Total
	N	(%)	N	(%)	
Low level (0.00-26.66)	1	9.1	10	90.9	11
Medium level (26.67-53.33)	104	28.1	266	71.9	370
High level (53.34-80.00)	14	23.7	45	76.3	59
Total	119	27.0	321	73.0	440
λ^2 = 2.338 df = 2 p-value = 0.31					

Findings from analysis suggested no associations between attitudes gateway drug with pattern Cigarette - Alcohol - Methamphetamine, whereas samples with medium level attitudes gateway drug 28.1 percent (see Table 4.15 for details).

CHAPTER V
DISCUSSION

This research is study to examine the gateway theory in drug addict patient with the objective to study the pattern of gateway drugs among drug addicted patient in The Princess Mother National Institute on Drug Abuse Treatment by focusing on the individual characteristics of patient, examining the relationship between independent variables and type of gateway drugs. The dependent variables include individual characteristics of patient, and it study about knowledge and attitude on gateway drugs. According to data analysis, the research results can be discussed into 2 parts which are;

1) The pattern of gateway drugs among addicted drugs patients.

2) The knowledge and attitude on gateway which related to pattern of gateway drugs.

5.1 The pattern of gateway drugs among addicted drugs patients

The research didn't have any difference of gateway drugs in gender. The result presents similar pattern of gateway drugs among male and female addicted patients. This finding also shown the first step of male is smoking cigarette 88.8 %, the second step is drinking alcohol 62.1%, and the third step use methamphetamine 39.3%. Whereas female found the first step is smoking cigarette 61.3 %, the second step is drinking alcohol 36.2%, and the third step use methamphetamine 29.7%. The outcome reflects the pattern of gateway drugs among drug addicted patients that in most of the sample size, the first step is smoking cigarette 79.1 %, the second step is drinking alcohol showed 53%, and the third step use methamphetamine 35.9 %. It supports the generalizability of gateway drug that it effect cigarette smoking on alcohol use (97).

In Thailand, unauthorized production, consumption, possession and sale of marijuana and a wide range of drugs are banned based on Categories I-V of the Narcotics Act B.E. 2522 (1979). According to the Narcotics Act B.E. 2522 (1979), production, importation, exportation or sale of marijuana listed in Category V is punishable by imprisonment and/or a fine of the offenders (85). Furthermore, in Southeast Asia methamphetamine is the most epidemic and most popular, which the most common form in Thailand is a small pill called a Yaba and Shabu in the Philippines. The behavior of marijuana use, which marijuana is the fourth step examining pattern of gateway drugs and less popular, affect to the law enforcement in the country. This study shows the different patterns of drug use, but the gateway drugs in patient resemblances to the gateway theory of Kandel (tobacco, alcohol) (86, 87, 35). The gateway drugs in Japan resemblance with Thailand. However, the different patterns of drug use. According to National Drug and Alcohol Research Centre, Australia (2010) supported the existence of other factors influencing the order and progression of drug use because 1) other illicit drug use was more prevalent than cannabis use in some countries, e.g. Japan; 2) the association between initiation of “gateway” drugs (i.e. alcohol/tobacco and cannabis), and subsequent other illicit drug use differed across countries, in some instances according to background prevalence of use of these gateway drugs; and 3) cross-country differences in drug use prevalence corresponded to differences in the prevalence of gateway violations. Higher levels of other illicit drug use compared to cannabis use were documented in Japan, where exposure to cannabis and tobacco/alcohol was less common. In this case, a lack of exposure and/or access to substances earlier in the normative sequence did not correspond to reduction in overall levels of other illicit drug use. This finding is contrary to the assumption that initiation reflects a universal ordered sequence in which rate of drug use later in the sequence must necessarily be lower than those earlier in the sequence (44). This has not previously been reported, whereas research has been traditionally conducted in countries where the use of tobacco, alcohol and cannabis is relatively common. As expected by a model in which environmental factors such as access and/or attitudes towards use of a drug play some role in terms of substance initiation, gateway substance use was differentially associated with the subsequent onset of other illicit drug use in countries/cohorts based on background

prevalence of gateway substance use (i.e. alcohol/tobacco more strongly associated with the subsequent onset of other illicit drug use in countries/cohorts with higher rates of alcohol/tobacco use and cannabis initiation more strongly associated with the subsequent onset of other illicit drug use in countries/cohorts with lower rates of cannabis use). Thus, while previous studies have consistently documented that the use of an earlier substance in the gateway sequence predicts progression to use of later substances (98-101), the present analyses conducted across diverse countries and cohorts showed that the strength of associations between substance use progressions may be driven by background prevalence rather than being wholly explained by causal mechanisms. Further, differences in patterns of gateway violations seen across countries in the Western Maryland Health System provided evidence in support of the likely influence of access and/or attitudes toward substance use in shaping order of initiation. The most common gateway violation was that of other illicit drug use before cannabis. Higher levels of other illicit drug use before cannabis were related to lower levels of cannabis use in Japan and Nigeria. Similarly, first use of other illicit drugs before alcohol and tobacco was found to be most prevalent in Japan and Nigeria, countries with relatively low rates of alcohol and tobacco use compared to other WMHS countries (102). In contrast, use of cannabis before alcohol and tobacco was extremely rare in countries with some of the highest rates of cannabis use, such as the US and New Zealand. Cannabis users in the US were also much more likely to progress to other illicit drug use than those in the Netherlands. Taken together, cross-country differences in drug use prevalence corresponded remarkably well with differences in the prevalence of gateway drug violations.

5.2 The knowledge and attitude on gateway which related to pattern of gateway

The characteristic of subjects were single 55.7 %, and married 29.8 % respectively. Since average ages were 29 years, the oldest were 56 years old and the youngest were 18 years old. According to the results of educational background of subjects found 37 % graduated with secondary school, and followed by primary 33 %, and Vocational and High School 20.2 %. Regarding the previous studies adolescent

smoking is of particular interest from a research and a policy perspective because smoking initiation and early smoking habits are known to have important implications for lifetime smoking. More than 90 % of adult smokers started smoking as teens or younger. Few people in their 20s or older choose to start smoking (103-105). The earlier in life a youth tries a cigarette, the more likely he or she is to become a regular smoker or daily smoker, translating into a greater incidence of negative health effects (105-106). Less than half (46%) of youth who initiate smoking in the 11th grade become regular adult smokers, whereas 67 % of youth who initiate smoking in the 6th grade become regular smokers (105).

The family status of subjects shown 38.9 % who were living together, and followed by separated 21.4 %, and father died 17.5 %. In addition, the relationship in the family also showed that most subjects live with father and mother 69.5 %, have loved, care and interaction at scale of very much 49.8 %. If family has a conflict, they are talk, understand and consultant, they sympathize with each other 50.2 %. Thus, the NIDA Report emphasizes strengthening protective factors through the family, including increasing family bonding and using appropriate discipline. The following family characteristics place children at a higher risk for substance abuse: parent with a history of alcoholism and drug abuse, high levels of family conflict, lack of and/or inconsistent parental discipline. It follows that eliminating these risk factors can reduce the risk of a child/adolescent abusing drugs and alcohol. Once these risk factors are identified, families may benefit from formal prevention program that can focus on enhancing family bonding, parenting skills (including communication, rule-setting, appropriate disciplinary actions) and changing parental behavior that may place a child at risk for later abuse.

First-time drug users are majority of later abuse. This study showed 59.3 % first try drugs, and peer pressure have an effect on drug use 23.2 %, and stress or uneasy 8 %, respectively. In considering youth drug abuse particularly susceptible to social influences given their developmental stage and the importance of school and peer groups in adolescent life (107). Moreover, there may be uniquely social aspects of adolescent smoking and other substance use, in that other adolescents provide access, opportunity, and reinforcement (108-109). Therefore, it should not be surprising fact that adolescent substance use and peer use are highly associated. While

the effects of peer groups on adolescent substance use have been widely documented, much remains to be learned, especially regarding the mechanisms of peer influence (110). From social learning theory describes how people learn from watching others. This is a good news for humans because it means that they don't always have to stick their own hand in fire in order to learn that it is painful to do so. If the individual observes that other people appear to receive rewards for certain behaviors they will be tempted to model these behaviors. Thus if peers appear to get enjoyment from using alcohol or drugs, the individual will be tempted to emulate their behavior. Social learning is critical for human survival but sometimes it can go wrong if the behavior that is being imitated is self-destructive. Just as it is possible to learn bad behaviors from watching other people, it is also possible to unlearn them.

The attitudes towards drug use are important. While the overwhelming majority of youth responded that they had never been taught the dangers of using drugs, many admitted to being aware of the harms of using and had a relatively strong knowledge about the detrimental effects of using drug. Consistent with our findings, research conducted elsewhere found that street boys described having a moderate degree of awareness about the negative health outcomes associated with their use, yet they continued to use inhalants (111-115). In contrast, a study in Egypt reported that very few children acknowledged that using volatile substances could negatively impact health (116). Participants' heightened awareness and knowledge could be due to their personal and peer experiences with drug use; for example, friends were cited as the primary source for learning about drugs. Yet, even with what may be considered experiential knowledge, the overwhelming majority of participants still didn't consider themselves knowledgeable about drug use. This finding in combination with the fact that only a small number of children and youth reported having received any substance use education, demonstrates the importance of incorporating education and sensitization into interventions to mitigate substance use. Street children's drop-in programs and outreach activities should actively increase their substance use education programs and consider utilizing a community-based peer network of nonusers to disseminate information due to the strong influence peers play in adolescence's social networks.

This study revealed that attitude to stimulant drug use because of it can produce feelings of tremendous joy, increased wakefulness, and more talkative, energetic, or anxious and irritable. It means that stimulant drug can make people react to reinforcement. A defining characteristic of drug dependence is that drug use begins as a voluntary action to seek a rewarding stimulus, but continued use results in loss of control over the use, despite its negative consequences (117). The effects of many illicit drugs are mediated via various brain circuits, in particular the mesolimbic systems, which have evolved to respond to basic rewards (such as food and sex) to ensure survival. A diverse range of substances, including opioids, stimulants and cannabis, as well as alcohol and nicotine, all appear to produce euphoric effects via increasing levels of dopamine (a neurotransmitter) in the nucleus acumens (117). This has been well demonstrated in human brain-imaging studies (118). Euphoria resulting from use then potentiates further use, particularly for those with a genetic vulnerability (see below). Chronic drug use may produce long-lasting changes in the reward circuits, including reductions in dopamine receptor levels (118), and these contribute to the clinical course of drug dependence, including craving, tolerance and withdrawal (119). In addition, other types of neurotransmitter systems (for example, opioids, glutamates and cannabinoids) are implicated in the misuse of specific drugs. Although initiation into drug use does not lead inevitably to regular and problematic use for many people (120), it is clear that when use begins, it often escalates to misuse and sometimes to dependence (tolerance, withdrawal symptoms and compulsive drug taking). Once dependence is established, particularly with opioids, there may be repeated cycles of cessation and relapse extending over decades (121). Vulnerability to use is highest among young people, with most problem drug users initiating by the age of 20 (typically earlier for cannabis). Individuals dependent on drugs often become so in their early twenties and may remain intermittently dependent for many years.

The study on the relationship between knowledge and attitude with pattern of cigarette - alcohol - methamphetamine, researcher selected the data analysis of gateway drugs from the most sequence pattern of drug use and substance abuse on drug addict patients. Result found tobacco is the first, alcohol is the second, and methamphetamine is the third. The result pattern of gateway drugs showed that the most addicted patients were on cigarette, alcohol and methamphetamine use.

Therefore, performance analysis on the specific pattern were on cigarette, alcohol and methamphetamine use only.

According to study of Krisda Charoenpibul, 2009 (88) the correlation between knowledge and attitude, alcohol drinking among Thai people living and working in the surrounding areas of Kanchanaburi province, drinking behavior are also observed by drawing data from the samples. Result found that knowledge and attitude are also correlated with alcohol drinking statistically significant. According to study of Krittin Chumkaew, 2014 (89) examining the relationships among the knowledge of, attitude toward, and behavior toward food consumption, questionnaires were distributed to gather data from 400 elderly people who were selected by multi-stage random sampling. Result found that knowledge and attitude are correlated statistically significant with the influence of food consumption behavior. According to study of Amornrat Ratanasiri, 2014 (90) medical students at Khon Kaen University (KKU), Thailand concerning cigarette smoking. The study shows that attitude and opinion have significant relationship with smoking habits. However, research found that knowledge and attitude are not statistically and significantly associated with pattern cigarette - alcohol - methamphetamine, because this study has a sample of small population.

In conclusion, the present study is to provide information on the knowledge, and attitudes concerning the pattern of gateway drug use. Understanding of knowledge and attitude of young people, peer pressure has clear implications for later drugs usage.

CHAPTER VI
CONCLUSION

This chapter is organized into 3 sections. The first section is summary of this study; second section is recommendation from result of this study and the third section is recommendation base on the finding for further research.

6.1 Summary of this study

This was descriptive research which aimed to study pattern of the gateway drugs among addicted drugs patient in The Princess Mother National Institute on Drug Abuse Treatment and study relation between knowledge and attitude on pattern of gateway. There were 440 patients. All of them were treated during the data collection period. Those were selected purposively according to the inclusion criteria. The majority of patients were male (64.8%) and female (35.2%). The mean age was 29 years. Most of them graduated secondary school (37.0%).The family status of subjects showed their parents were living together. However, the relationship were loved, care and interaction. If family has a conflict, they are talk, understand and consultants, they are sympathy for each other. The Gateway hypothesis was first proposed by Denise Kandel (1975) in her article “Stages in Adolescent Involvement in Drug Use.” The Gateway hypothesis is the idea that users of hard drugs such as cocaine and heroin follow a logical sequence that begins with licit substances (alcohol and tobacco) and then leads on to marijuana and ending with harder illicit substances. The result of this research reflected pattern of gateway drugs among addicted drugs patients that most samples the first step is smoking cigarette then the second step is drinking alcohol and ending with amphetamine.

6.2 Recommendation from the result of this study

Base on the result of the study the researcher is making the following recommendation for individual factor involved to drug addiction. Age is important to relationship for first-time drug uses that are majority of later abuse. In considering youth drug abuse particularly susceptible to social influences given their developmental stage and the importance of school and peer groups in adolescent life. Moreover, there may be uniquely social aspects of adolescent smoking and other substance use, in that other. Therefore, it should not be surprising that adolescent substance use and peer use are highly associated. While the effects of peer groups on adolescent substance use have been widely documented, much remains to be learned, especially regarding the mechanisms of peer influence.

The knowledge and attitude of effect of drug addiction are important factors. Thus, result showed subjects had knowledge but they were not concern negative effect of drug dependence and addiction. They think can control. Furthermore they had positive attitude to effect of stimulant drug. It can produce feelings of tremendous joy, increased wakefulness, and more talkative, energetic.

6.3 Recommendation for further research

Further research is needed to elaborate on gateway and relate factor. The following are several possible further investigations to improve our understanding.

1 Comparative with other factors such as personal factors, parenting style, the relationship of family, differential association, environment etc. with pattern of gateway drug.

2 Explore characteristic of pattern of gateway drug including game and gambling that follow by DSM V.

3 Education and Intervention should be developed for preventive the first of drug use and substance abuse.

BIBLIOGRAPHY

1. UNITED NATIONS OFFICE ON DRUGS AND CRIME (2012). World Drug Report 2012. UNITED NATIONS. New York.
2. International Narcotics Control Strategy Report (2012). Volume I Drug and Chemical Control. March 2012.419-422
3. International Narcotics Control Strategy Report (2012). Volume I Drug and Chemical Control. March 2012.419-422
4. International Narcotics Control Strategy Report (2012). Volume I Drug and Chemical Control. March 2012.419-422
5. International Narcotics Control Strategy Report (2012). Volume I Drug and Chemical Control. March 2012.419-422
6. สำนักงานคณะกรรมการป้องกันและปราบปรามยาเสพติด (2554). สรุปผลการประมาณการจำนวนผู้เกี่ยวข้องกับสารเสพติด ปี 2554.วันที่สืบค้นข้อมูล15 มิถุนายน 2556. ที่มา http://nctc.oncb.go.th
7. สำนักงานคณะกรรมการป้องกันและปราบปรามยาเสพติด (2555). สถานการณ์ปัญหายาเสพติดในประเทศไทยเดือนเมษายนถึงเดือนมิถุนายน 2555. วันที่สืบค้นข้อมูล 15 มิถุนายน 2556. ที่มา http://nctc.oncb.go.th
8. ศรัณญา เบญจกุล และคณะ (2549). การสำรวจพฤติกรรมการสูบบุหรี่ของประชากรไทยอายุ 15 ปีขึ้นไป พ.ศ. 2543-2549, ศูนย์วิจัยและจัดการความรู้เพื่อการควบคุมยาสูบ มหาวิทยาลัยมหิดล. เจริญดีมั่นคงการพิมพ์ ;กรุงเทพ.
9. ศิริวรรณ ทิพยรังสฤษฏ์ และคณะ (2550). สถานการณ์การบริโภคยาสูบรายจังหวัด พ.ศ. 2550. เจริญดีมั่นคงการพิมพ์. ปรับปรุงครั้งที่ 2; กรุงเทพ.
10. ศิริวรรณ ทิพยรังสฤษฏ์ และคณะ (2555). สรุปสถานการณ์การควบคุมการบริโภคยาสูบของประเทศไทย พ.ศ. 2555.ปรับปรุงครั้งที่ 2. เจริญดีมั่นคงการพิมพ์; กรุงเทพ.
11. World Health Organization (2009). Global Adult Tobacco Survey (GATS): Thailand Country Report 2009. Regional Office for South-East Asia; 2009.

12. World Health Organization (2011). Global Adult Tobacco Survey (GATS): Thailand Country Report 2011. Regional Office for South-East Asia; 2011.
13. พรนภา หอมสินธุ (2550). การเริ่มต้นสูบบุหรี่ในวัยรุ่น. วารสารคณะพยาบาลศาสตร์ มหาวิทยาลัยบูรพาปีที่ 15 ฉบับที่ 4 ตุลาคม-ธันวาคม 2550.
14. Everett, S.A., Malarcher, A.M., Sharp D.J., Husten, C.G., & Giovino, G.A. (2000). Relationship between cigarette, smokeless tobacco, and cigar use and other health risk behaviors among US high school students. Journal of school health. 70, 234-240.
15. National Institutes of Health (NIH) (2011). Study examines nicotine as a gateway drug 2011. วันที่สืบค้น 21 มิถุนายน 2556. ที่มา http://www.drugabuse.gov
16. A. Thomas Horvath, Ph.D. Sex, drugs, gambling, & chocolate (1998). A Workbook for Overcoming Addictions. San Luis Obispo, CA: Impact Publishers, Inc.
17. R. M. Morse, D. K. Flavin (1992). Definition of addiction represents the one traditionally utilized by treatment centers and substance abuse counselors. The Journal of the American Medical Association; 68.
18. American Psychiatric Association (1994). Diagnostic and Statistical Manual of Mental Disorders. 4th ed. Washing, D.C.: APA.
19. Sumaj Kitisurakulchai (2009). Development of life skill and morality with Buddhist model applied to prevention of drug abuse: A case study in secondary level schools in Nakhon Pathom province. (Thesis in Master of Arts). Nakhon Pathom: Graduate studies Mahidol University.
20. Schuckit, M. A. (1995). Drug and Alcohol Abuse: Clinical Guide to Diagnosis and Treatment, (pp.9). (4th Ed.). New York: Plenum.
21. Brain on drugs (Online) (2009). Apr 1, 2009 (cited 2009 Apr 1); (1 screen). Available from: URL:http://www.narconon.ca/BrainOnDrugs.html.
22. Brain on drugs (Online) (2012). (Apr 1, 2012 (cited 2012 Apr 1); (1 screen). Available from:URL:http://www.narconon.ca/BrainOnDrugs.html.
23. Brain on drugs (Online) (2012). Apr 1, 2012 (cited 2012 Apr 1); (1 screen). Available from:URL:http://www.narconon.ca/BrainOnDrugs.html.
24. Brain on drugs (Online) (2012). Apr 1, 2012 (cited 2012 Apr 1); (1 screen). Available from:URL:http://www.narconon.ca/BrainOnDrugs.html.

25. Brain on drugs (Online) (2012). Apr 1, 2012 (cited 2012 Apr 1); (1 screen). Available from:URL:http://www.narconon.ca/BrainOnDrugs.html.
26. Brain on drugs (Online) (2012). Apr 1, 2012 (cited 2012 Apr 1); (1 screen). Available from:URL:http://www.narconon.ca/BrainOnDrugs.html.
27. Brain on drugs (Online) (2012). Apr 1, 2012 (cited 2012 Apr 1); (1 screen). Availablefrom:URL:http://www.narconon.ca/BrainOnDrugs.html.
28. The Brain's Drug Reward System (Online) (2012). July 11, 2012 (cited 2012 Apr1);(1screen).Availablefrom:URL:http://archives.drugabuse.gov/NIDA _Notes/NNVol11N4/Brain.html.
29. Gabriel G. Nahas and T. F. Burks (1997). Drug Abuse in the Decade of the Brain. Eds: IOS Press.
30. G. M. Edelman and J. Changeux, editors (1997). Drug Use and Abuse, Jean-Pierre Changeux, in the Brain. IOS Press.
31. Sarun Gorsanan (2006). Methamphetamine use among Thai women: A qualitative study at Thanyarak Institute (Thesis for degree doctor of philosophy). Bangkok: graduate school Silpakorn University.
32. American Psychiatric Association (2000). Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Text Revision (DSM-IV-TRTM).
33. World Health Organization (1992). The ICD-10 Classification of mental and behavioral disorders: clinical description and diagnostic guidelines. Geneva: World Health Organization.
34. National Institute on Drug Abuse (1999). Principles of Drug Addiction Treatment: A Research-Based Guide. National Institutes of Health; October.
35. Kandel, D. (1975). Stages of adolescent involvement in drug use. Science. 190 (4217), 912-914.
36. Guttman, L. (1943). A Basis for Scaling Qualitative Data. Presented to the Thirty-Eighth Annual Meeting of the American Sociological Society. 139-150.
37. Kandel, D. B., & Yamaguchi, K. (2002). Stages of drug involvement in the U.S. population. .” In Denise B. Kandel (Ed.), Stages and Pathways of Drug Involvement: Examining the Gateway Hypothesis. New York: Cambridge University Press.

38. Kandel, D. B. ,Treiman, D., Faust, R., & Single, E. (1974). Adolescent involvement in legal and illegal drug use: A multiple classification analysis. Social Forces. 55(2), 438-458.
39. Kandel, D. B., & Yamaguchi, K. (1996). Parametric event sequence analysis: An application to an analysis of gender and racial/ethnic differences in patterns of drug-use progression. Journal of the American Statistical Association. 91(436), 1388-1399.
40. Mills, C. J., & Noyes, H. L. (1984). Patterns and Correlates of initial and subsequent drug use among adolescents. Journal of Consulting and Clinical. 52, 231-243.
41. Hawkins, D. J., Hill K. G., Guo, J., & Batton-Pearson, S. R. (2002). Substance use norms and transitions in substance use: Implications for the gateway hypothesis. In Denise B. Kandel (Ed.), Stages and Pathways of Drug Involvement: Examining the Gateway Hypothesis. New York: Cambridge University Press.
42. Golub, A., & Johnson, B. (2002). Variation in youthful risks of progression from alcohol and tobacco to marijuana and to hard drugs across generations. American Journal of Health. 91 (2), 225-232.
43. Earleywine, M. (2002). Understanding Marijuana: A New Look at the Evidence. Oxford: Oxford University Press.
44. Kandel, D. (2002). Examining the gateway hypothesis: Stages and pathways of drug involvement. In Denise B. Kandel (Ed.), Stages and Pathways of Drug Involvement: Examining the Gateway Hypothesis. New York: Cambridge University Press.
45. Tarter, R. E.; Vanyukov, M, Kirisci, L., Reynolds, M., & Clark, D. B. (2006). Predictors of marijuana use in adolescents before and after licit drug use: Examination of the gateway hypothesis. American Journal of Psychiatry. 63 (12), 2138.
46. Bell, R. M., Ellickson, P. L., & Hays, R. D. (1992). Stepping through the drug-use sequence: Longitudinal scalogram analysis of initiation and regular use. Journal of Abnormal Psychology. 101(3), 441-451.

47. Rosenberg MJ, Hovland CI (1960). Cognitive, affective and behavioral components of attitudes. New Haven: Yale University Press.
48. Howard HK. Basic psychology (1963). 1st ed. New York: Appleton - Century Crofts.
49. Sherif CW, Muzafer S (1967). Attitude, Ego - involvement and change. New York: John Wiley & Sons, Inc.
50. Murphy G, Murphy LB, Newcomb T (1937). Experimental social psychology: An interpretation of research upon the socialization of the individual. New York and London: Harper & Brothers Publishers.
51. ประภาเพ็ญ สุวรรณ (2526). ทัศนคติ: การวัดการเปลี่ยนแปลงและพฤติกรรมอนามัย. กรุงเทพฯ: โอเดียนสโตร์.
52. เหม ทองชัย (2523). เจตคติ. กรุงเทพฯ: โรงพิมพ์รุ่งวัฒนา.
53. เชิดศักดิ์ โฆวาสินธุ (2527). การวิจัยทางสังคมศาสตร์และพฤติกรรมศาสตร์.กรุงเทพฯ: พีระพัทธา.
54. บุญธรรม กิจปรีดาบริสุทธิ์ (2531). ระเบียบวิธีการวิจัยทางสังคมศาสตร์. กรุงเทพฯ: การพิมพ์พระนคร.
55. พวงรัตน์ ทวีรัตน์ (2531). วิธีการวิจัยทางพฤติกรรมศาสตร์และสังคมศาสตร์. กรุงเทพฯ: สำนักทดสอบทางการศึกษาและจิตวิทยามหาวิทยาลัยศรีนครินทรวิโรฒประสานมิตร.
56. ชัยยง ชามรัตน์ (2533). ทัศนคติ: การจัดการเปลี่ยนแปลงและพฤติกรรมอนามัย. กรุงเทพฯ: ไทยวัฒนาพานิช.
57. John RS, James GH, Richard NO (1988). Managing organizational behavior-AIM: advanced instruction modules. 3rd (Ed). New York: John A. Wiley & Sons, Publishers.
58. Zimbardo PG, Ebbesen EB (1970). Experimental modification of the relationship between effort, attitude and behavior. J Pers Soc Psychol. 16(2):207-13.
59. Krech D, Crutchfield RS (1948). Theory and problems of social psychology. New York: Mc Graw - Hill.
60. Triandis H (1971). Attitude and attitude change. New York: Wiley and Sons.
61. ธงชัย สันติวงศ์ (2539). การบริหารเชิงกลยุทธ์ (Strategic Management). กรุงเทพมหานคร: ไทยวัฒนาพานิช.

62. Kelman HC (1958). Compliance, identification, and internalization: three processes of attitude change. J Conflict Resolution. 2(1):51-60.
63. Mcguire WJ, Millman S (1965). Anticipatory belief lowering following forewarning of apersuasive attack. J PersSocPsychol. 2(4).
64. Mcguire WJ (1968). Personality and susceptibility to social influence. Chicago: Rand McNally.
65. Krech D, Crutchfield RS (1971). The process and effects of mass communication. Urbana: University of Illinois Press.
66. อรวรรณ ปิลันธน์โอวาท (2537). การสื่อสารเพื่อการโน้มน้าวใจ. กรุงเทพฯ: ภาควิชาวาทวิทยาและสื่อสารการแสดงคณะนิเทศศาสตร์จุฬาลงกรณ์มหาวิทยาลัย.
67. Anatasi A (1967). Psychological testing. 2nd ed. New York: Macmillan Company.
68. Wolman BB (1973). Dictionary of behavioral science. New York: Von Non stand Reinhold.
69. ชม ภูมิภาค (2516). จิตวิทยาการเรียนการสอน. กรุงเทพฯ: โรงพิมพ์ไทยวัฒนาพาณิชย์.
70. นิภา มนุญปิจุ (2520). บริการอนามัยโรงเรียน. กรุงเทพฯ : โรงพิมพ์ศรีอนันต์.
71. ชม ภูมิภาค (2526). จิตวิทยาการเรียนการสอน. กรุงเทพฯ : ไทยวัฒนาพานิช.
72. โสภา ชูพิกุลชัย (2521). จิตวิทยาทั่วไป. กรุงเทพฯ : สำนักพิมพ์ไทยวัฒนาพานิช.
73. เดโช สวนานน (2518). จิตวิทยาสังคม.พิมพ์ครั้งที่ 2. พระนคร: โอเดียนสโตร์.
74. สุชา จันเอม และคณะ (2518). จิตวิทยาการศึกษา. พิมพ์ครั้งที่ 3. พระนคร: แพร่พิทยา.
75. สมใจ ลักษณะ (2519). จิตวิทยาการศึกษา. พระนคร : โรงพิมพ์สวนสุนันทา.
76. วารินทร์ สายโอบเอื้อ และคณะ (2522). จิตวิทยาการศึกษา. กรุงเทพฯ : โรงพิมพ์วิทยาลัยครูพระนคร.
77. ประดินันท์ อุปรมัย (2523). พื้นฐานการศึกษา. กรุงเทพ: โรงพิมพ์มหาวิทยาลัยสุโขทัยธรรมาธิราช.
78. ปราณี รามสูตร (2528). จิตวิทยาการศึกษา. กรุงเทพฯ: บูรพาสาส์น.
79. สังคม ภูมิพันธ์ (2530). จิตวิทยาทั่วไป. มหาสารคาม: โรงพิมพ์มหาวิทยาลัยมหาสารคาม.
80. กันยา แสงสุวรรณ (2532). จิตวิทยาทั่วไป. กรุงเทพฯ: โรงพิมพ์อักษรพิพัฒน์จำกัด.
81. วราลักษณ์ ธีราโมกข์ (2538). พฤติกรรมศาสตร์การสื่อสาร. เอกสารประกอบการสอนสาขาวิชานิเทศศาสตร มหาวิทยาลัยสุโขทัยธรรมาธิราชกรุงเทพฯ. โรงพิมพ์มหาวิทยาลัยสุโขทัยธรรมาธิราช.

82. Fergusson DM, Boden JM, Horwood LJ (2006). Cannabis use and other illicit drugs: Testing the cannabis gateway hypothesis. Christchurch, New Zealand.

83. Kirby T, Barry AE (2012). Alcohol as a gateway drug: a study of US 12th graders. Journal of School Health. American School Health Association; 82: 371-379.

84. Shenghan L, Hong L, Bryan J and Clyde B (2000).The Association Between Cigarette Smoking and Drug Abuse in the United States. Journal of Addictive Diseases: Official Journal of the American Osteopathic Academy of Addiction Medicine; 11-24.

85. ธีระพล อรุณะกสิกร และคณะ (2545). พระราชบัญญัติยาเสพติดให้โทษ พ.ศ. 2522 : แก้ไขเพิ่มเติม พ.ศ. 2545. กรุงเทพฯ : สำนักพิมพ์วิญญูชน.

86. UNITED NATIONS OFFICE ON DRUGS AND CRIME (2011). World Drug Report 2011. UNITED NATIONS. New York.

87. อุษา บิ้กกิ้นส์ (2556). ปัจจัยที่มีผลต่อพฤติกรรมเมาแล้วขับและการเปิดรับสื่อของผู้ขับขี่รถจักรยานยนต์ในเขตกรุงเทพมหานคร.วารสารสุทธิปริทัศน์. ปีที่ 27.ฉบับที่ 82 .หน้า 41-60

88. Krisda Charoenpibul (2009). Correlation between knowledge, attitude and alcohol drinking in Thai society: a case study in Kanchanaburi province. Thesis (M.A. (Addictionology)) Mahidol University.

89. กฤติน ชุมแก้ว (2557). ความรู้ ทัศนคติ และพฤติกรรมการบริโภคอาหารของผู้สูงอายุในจังหวัดสงขลา. วารสารเกษตรศาสตร์ (สังคม) ปีที่ 35 : 16 - 29.

90. อมรรัตน์ รัตนสิริ (2557). ความรู้และทัศนคติของนักศึกษาแพทย์ต่อการสูบบุหรี่ : ศึกษากรณีนักศึกษาแพทย์ คณะแพทยศาสตร์ มหาวิทยาลัยขอนแก่น จังหวัดขอนแก่น ประเทศไทย.วารสารศรีนครินทร์ (แพทยศาสตร์). 24(2): 154-160.

91. Yamane T (1960). Statistic: An introduction analysis. Singapore: Harper International Edition.

92. สถาบันบำบัดและรักษาฟื้นฟูผู้ติดยาเสพติดแห่งชาติบรมราชชนนี กระทรวงสาธารณสุข (2556). รายงานจำนวนของผู้บำบัดรักษาและฟื้นฟูผู้ติดยาเสพติดประจำปี 2556. ปทุมธานี.

93. Suwan P.Viewpoint (1977). Measurement of Change and Health Behavior. Bangkok: Thaiwatthana Panish Printing Office.

94. พวงรัตน์ ทวีรัตน์ (2540). วิธีการวิจัยทางพฤติกรรมศาสตร์และสังคมศาสตร์. พิมพ์ครั้ง 7. มหาวิทยาลัยศรีนครินวิโรฒน์ ประสานมิตร. กรุงเทพฯ.

95. Devellis, R.F. (1991). Scale Development, Sage Publications, pp. 24-33.

96. เกียรติสุดา ศรีสุข (2552). ระเบียบวิธีวิจัย. เชียงใหม่: โรงพิมพ์ครองช่าง. หน้า 144.

97. Chen, X., Jennifer B. Unger, Paula Palmer, Michelle D. Weiner, Carl Anderson Johnson, Mamie M. Wong, Greg Austin (2002). Prior cigarette smoking initiation predicting current alcohol use: Evidence for a gateway drug effect among California adolescents from eleven ethnic groups. Journal of Addictive Behaviors, 27, 799-817

98. Grau LE, Dassgupta N, Harvey AP, Irwin K, Givens A, Kinzly ML, Heimer R (2007). Illicit of opioids: is OxyContin a “gateway drug”? Am. J. addict. 16:166-173. [PubMed: 18370620]

99. Kandel DB, Davies M, Karus D, Yamaguchi K (1986). The consequences in young adulthood of adolescent drug involvement. An overview. Arch. Gen. Psychiatry. 43:746-754.

100. Van Ours JC (2003). Is cannabis a stepping - stone for cocaine? J. health Econ. 22: 539-554. [PubMed:12842314]

101. Yamaguchi K, Kandel DB (1984). Patterns of drug use from adolescence to young adulthood: III. Predictors of progression. Am. J. Public Health. 74:673-681. [PubMed: 6742253]

102. Degenhardt L, Chiu W-T, Sampson N, Kessler R, Anthony J, Angermeyer M, Bruffaerts R, de Girolamo G, Gureje O, Huang Y, Karam A, Kostyuchenko S, Lepine J-P, Mora M.-E. Medina, Neumark Y, Ormel J, Pinto-Meza A, Posada-Villa J, Stein D, Takeshima T, Wells E (2008). Toward a global view of alcohol, tobacco, cannabis and cocaine use: Findings from the WHO World Mental Health Surveys. PLoS Medicine. 5:e141. doi:10.1371/journal.pmed. 0050141.

103. U.S. Department of Health and Human Services (USDHHS) A report of the Surgeon General (1994). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and

Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health. Preventing tobacco use among young people.

104.Glynn TJ, Greenwald P, Mills SM, Manley MW (1993). Youth tobacco use in the United States-Problems, progress, goals, and potential solutions. Preventive Medicine. 22:568-575.

105.Lynch BS, Bonnie RJ, editors (1994). Institute of Medicine (IOM) Growing up tobacco free: Preventing nicotine addiction in children and youths. Washington, DC: National Academy Press.

106.Lewit EM, Coate D, Grossman M (1981). The effects of government regulation on teenage smoking. Journal of Law and Economics. 24:545-573.

107.Steinberg L, Monahan KC (2007). Age differences in resistance to peer influence. Developmental Psychology. 43:1531-1543.

108.Kirke DM (2004). Chain reactions in adolescents' cigarette, alcohol, and drug use: similarity through peer influence or the patterning of ties in peer networks. Social Networks. 26:3-28.

109.O'Loughlin J, Paradis G, Renaud L, Gomez LS (1998). One-year predictors of smoking initiation and of continued smoking among elementary schoolchildren in multiethnic,low-income,innercityneighbourhoods. Tobacco Control. 7:268-275.

110.Kobus K (2003). Peers and adolescent smoking. Addiction. 98:37-55.

111.Cottrell-Boyce J (2010). The role of solvents in the lives of Kenyan street children: An ethnographic perspective. African Journal of Drug and Alcohol Studies. 9(2):93-102.

112.Kaime-Atterhog W, Ahlberg BM (2008). Are street children beyond rehabilitation? Understanding the life situation of street boys through ethnographic methods in Nakuru, Kenya. Children and Youth Services Review. 30(12):1345-1354.

113.Morakinyo J, Odejide AO (2003). A community based study of patterns of psychoactive substance use among street children in a local government area of Nigeria. Drug and Alcohol Dependence. 71(2):109-116.

114.Njord L, Merrill RM, Njord R, Lindsay R, Pachano JD (2010). Drug use among street children and non-street children in the Philippines. Asia-Pacific Journal of Public Health. 22(2):203-211.

115.Seth R, Kotwal A, Ganguly KK (2005). Street and working children of Delhi, India, misusing toluene: An ethnographic exploration. Substance Use Misuse. 40(11) :1659 -1679.

116.Elkoussi A, Bakheet S (2005). Volatile substance misuse among street children in Upper Egypt. Substance Use Misuse. 46(1 Suppl):35-39.

117.Dackis C, O'Brien C (2005). Neurobiology of addiction: treatment and public policy ramifications. Nature Neuroscience. 8(11):1431-1436.

118.Volkow ND, et al (1999). Reinforcing effects of psycho stimulants in humans are associated with increases in brain dopamine and occupancy of D (2) receptors. Journal of Pharmacology and Experimental Therapeutics. 291(1):409-415.

119.Lingford-Hughes AR, Nutt D (2003). The neurobiology of addiction and implications for treatment.Br J Psychiatry. 182:97-100.

120.Anthony JC, Warner LA, Kessler RC (1994). Comparative epidemiology of dependence on tobacco, alcohol, controlled substances, and inhalants: basic findings from the National Comorbidity Survey. Experimental and Clinical Psychopharmacology. 2:244-268.

121.National Consensus Development Panel on Effective Medical Treatment of Opiate Addiction (1998). Effective medical treatment of opiate addiction. The Journal of the American Medical Association. 280:1936-1943.

APPENDIX

แบบสอบถามสำหรับการวิจัย

ศึกษาทฤษฎีประตูด่านแรกในผู้ป่วยติดยาเสพติด

คำชี้แจงในการตอบแบบสอบถาม

แบบสอบถามนี้มีวัตถุประสงค์ที่จะศึกษาขั้นตอนการใช้ยาหรือสารเสพติดในระยะเริ่มต้นของผู้ป่วยติดยาเสพติด ซึ่งข้อมูลที่ได้รับจากท่าน ผู้ศึกษาวิจัยจะนำไปใช้เพื่อเป็นส่วนหนึ่งของวิทยานิพนธ์ ศิลปศาสตรมหาบัณฑิต หลักสูตรวิทยาการเสพติด สถาบันพัฒนาสุขภาพอาเซียน มหาวิทยาลัยมหิดล โดยเนื้อหาแบ่งออกเป็น 4 ตอน ดังนี้

ตอนที่ 1 แบบสอบถามเกี่ยวกับข้อมูลทั่วไป

ตอนที่ 2 แบบสอบถามเกี่ยวกับพฤติกรรมการเริ่มต้นใช้สารเสพติดหรือยาเสพติดครั้งแรก

ตอนที่ 3 แบบสอบถามความรู้และการรับรู้เกี่ยวกับการเริ่มต้นใช้สารเสพติดหรือยาเสพติดครั้งแรก

ตอนที่ 4 ทัศนคติต่อการเริ่มต้นใช้สารเสพติดหรือยาเสพติดครั้งแรก

คำตอบที่ได้รับจะไม่มีผลกระทบหรือทำให้ท่านเสียหายแต่อย่างใด และจะไม่ถูกเปิดเผยในที่ใด การวิเคราะห์ข้อมูลจะนำเสนอในภาพรวมไม่แยกนำเสนอหรือวิเคราะห์เป็นรายบุคคล

ตอนที่ 1 ข้อมูลทั่วไป

โปรดเติมข้อความในช่องว่าง หรือกาเครื่องหมาย / ใน [ ] หน้าข้อความที่ตรงกับความจริงเกี่ยวกับตัวท่านมากที่สุด

1. เพศ (1)[ ] ชาย (2)[ ] หญิง อายุ (เต็มปี) ..... ปี
2. สถานภาพสมรสของท่าน
   (1)[ ] โสด (2)[ ] สมรส (3)[ ] หย่า (4)[ ] หม้าย (5)[ ] แยกกันอยู่
3. ระดับการศึกษาสูงสุดของท่าน
   (1)[ ] ประถมศึกษา (2)[ ] มัธยมศึกษาตอนต้น (3)[ ] ปวช. (4)[ ] มัธยมศึกษาตอนปลาย
   (5)[ ] ปวส./อนุปริญญา (6)[ ] ปริญญาตรี (7)[ ] สูงกว่าปริญญาตรี (8)[ ] อื่นๆ (ระบุ).....
4. สถานภาพของบิดามารดา
   (1)[ ] อยู่ด้วยกัน (2)[ ] แยกกันอยู่ (3)[ ] หย่าร้าง
   (4)[ ] บิดาเสียชีวิต (5)[ ] มารดาเสียชีวิต (6)[ ] บิดาและมารดาเสียชีวิต
5. เขตที่อยู่อาศัย
   (1)[ ] เขตกรุงเทพฯและปริมณฑล (2)[ ] เขตต่างจังหวัด (3)[ ] ชุมชนแออัด
6. ลักษณะที่อยู่อาศัย
   (1)[ ] บ้าน (2)[ ] ทาวเฮาส์ (3)[ ] ห้องเช่า (4)[ ] บ้านเช่า
   (5)[ ] อาคารชุด/คอนโด (6)[ ] แฟลต 7) [ ] อื่นๆ **โปรดระบุ**.....
7. ท่านรู้สึกว่าระดับความสัมพันธ์ของบุคคลภายในครอบครัวของท่าน **(ตอบได้เพียง 1 ข้อ)**
   (1)[ ] มีความรักความผูกพันห่วงใยกันมาก
   (2)[ ] มีความรักความผูกพันห่วงใยกันพอสมควร
   (3)[ ] มีความรักความผูกพันห่วงใยกันน้อย
8. ท่านรู้สึกว่าระดับความสัมพันธ์ของท่านกับครอบครัว **(ตอบได้เพียง 1 ข้อ)**
   (1)[ ] มีความรักความผูกพันห่วงใยซึ่งกันและกันมาก
   (2)[ ] มีความรักความผูกพันห่วงใยซึ่งกันและกันพอสมควร
   (3)[ ] มีความรักความผูกพันห่วงใยซึ่งกันและกันน้อย

9. เมื่อครอบครัวของท่านมีความขัดแย้งกันจะแสดงออกโดย **(ตอบได้เพียง 1 ข้อ)**

(1)[ ] พูดคุยและทำความเข้าใจกันด้วยการปรึกษามีความเห็นอกเห็นใจซึ่งกันและกัน

(2)[ ] พูดคุยและทำความเข้าใจกันด้วยการปรึกษาหากรุนแรงจะถกเถียงโดยไม่ให้ท่านเห็น

(3)[ ] ใช้อารมณ์เข้าหากันและทะเลาะพร้อมทั้งใช้ความรุนแรงเป็นบางครั้ง

(4)[ ] ใช้อารมณ์เข้าหากันและทะเลาะพร้อมทั้งใช้ความรุนแรงเป็นประจำจนเคยชิน

10. ผู้ที่อยู่ใกล้ชิดและอบรมเลี้ยงดูท่านมากที่สุด คือ **(ตอบได้เพียง 1 ข้อ)**

(1)[ ] บิดา/มารดา (2)[ ] ปู่/ย่า /ตา/ยาย (3)[ ] พี่ (4)[ ] ป้า/ น้า /อา (5)[ ] อื่นๆ ระบุ…

ตอนที่ 2 พฤติกรรมการเริ่มต้นใช้สารเสพติดหรือยาเสพติดครั้งแรก

คำแนะนำในการตอบ โปรดขีดเครื่องหมายลำดับหมายเลขและเครื่องหมาย / ในช่องที่ท่านคิดว่าถูกต้องและเติมข้อความลงตามความเป็นจริงเกี่ยวกับตัวท่านมากที่สุด

1. ท่านเริ่มต้นใช้ยาหรือสารเสพติดครั้งแรก เมื่อ อายุ ..... ปี
2. เรียงลำดับการเริ่มใช้ยาและสารเสพติดครั้งแรกจนถึงปัจจุบัน **(โดยใส่หมายเลข 1, 2, 3, ตามลำดับ)**

ลำดับที่ ..... บุหรี่ ( ) เคยทดลองใช้ ( ) ประจำ ..... มวน/.....วัน ใช้มานาน.....ปี
ลำดับที่ ..... เหล้า ( ) เคยทดลองใช้ ( ) ประจำ ..... ขวด/.....วัน ใช้มานาน.....ปี
ลำดับที่ ..... กัญชา ( ) เคยทดลองใช้ ( ) ประจำ ..... ห่อ/.....วัน ใช้มานาน.....ปี
ลำดับที่ ..... เหล้าแห้ง ( ) เคยทดลองใช้ ( ) ประจำ ..... เม็ด/.....วัน ใช้มานาน.....ปี
ลำดับที่ ..... ใบกระท่อม ( ) เคยทดลองใช้ ( ) ประจำ ..... ใบ/.....วัน ใช้มานาน.....ปี
ลำดับที่ ..... น้ำกระท่อม ( ) เคยทดลองใช้ ( ) ประจำ ..... ขวด/.....วัน ใช้มานาน.....ปี
ลำดับที่ ..... ยาบ้า ( ) เคยทดลองใช้ ( ) ประจำ ..... เม็ด/.....วัน ใช้มานาน.....ปี
ลำดับที่ ..... ยาไอซ์ ( ) เคยทดลองใช้ ( ) ประจำ .....ตัก (g)/.....วัน ใช้มานาน....ปี
ลำดับที่ ..... ยาอี/ยาเลิฟ ( ) เคยทดลองใช้ ( ) ประจำ ..... เม็ด/.....วัน ใช้มานาน.....ปี
ลำดับที่ ..... ยาเค ( ) เคยทดลองใช้ ( ) ประจำ ..... /.....วัน ใช้มานาน.....ปี
ลำดับที่ ..... ฝิ่น ( ) เคยทดลองใช้ ( ) ประจำ ..... /.....วัน ใช้มานาน.....ปี
ลำดับที่ ..... เฮโรอีน ( ) เคยทดลองใช้ ( ) ประจำ ..... /.....วัน ใช้มานาน.....ปี
ลำดับที่ ..... กาว/สารระเหย( ) เคยทดลองใช้ ( ) ประจำ..... กระป๋อง/....วัน ใช้มานาน....ปี
ลำดับที่ ..... โคเคน/Coke ( ) เคยทดลองใช้ ( ) ประจำ ..... /.....วัน ใช้มานาน.....ปี
ลำดับที่ ..... ยาแก้ไอ ( ) เคยทดลองใช้ ( ) ประจำ ..... /.....วัน ใช้มานาน.....ปี
ลำดับที่ ..... อื่นๆ โปรดระบุ.....

3. ลักษณะระยะเริ่มต้นของการใช้สารเสพติดก่อนใช้ยาเสพติดชนิดรุนแรงอื่นๆ

(1)[ ] สูบบุหรี่อย่างเดียวก่อนไปใช้ยาเสพติด (2)[ ] ดื่มเหล้าอย่างเดียวก่อนไปใช้ยาเสพติด
(3)[ ] สูบบุหรี่และดื่มเหล้าก่อนไปใช้ยาเสพติด (4)[ ] ใช้ยาเสพติดเลย

4. สถานที่ใช้ยาและสารเสพติดเป็นครั้งแรก**(ตอบได้เพียง 1 ข้อ)**

(1)[ ] บ้านตนเอง (2)[ ] บ้านเพื่อน (3)[ ] หอพัก (4)[ ] ร้านอาหาร
(5)[ ] สถานบันเทิง (6)[ ] ในชุมชน (7)[ ] สถานที่สาธารณะ (8)[ ] โรงเรียน
(9)[ ] สถานศึกษา (10)[ ] บ้านแฟน (11)[ ] ที่พัก/คอนโดแฟน (12)[ ] ทุ่งนา/สวน

5. สาเหตุหลักของการใช้ยาและสารเสพติดเป็นครั้งแรก**(ตอบได้เพียง 1 ข้อ)**

(1)[ ] เพื่อนชักชวน (2)[ ] อยากทดลอง (3)[ ] ถูกบังคับ (4)[ ] เพื่อความโก้เก๋

(5)[ ] มีความเครียดไม่สบายใจ (6)[ ] กระตุ้นให้เกิดความสนุกสนาน

(7)[ ] เพื่อต้องการเข้ากลุ่มเพื่อน (8)[ ] ลดความอ้วน (9)[ ] อื่นๆ **โปรดระบุ**.....

6. ท่านสามารถหายาหรือสารเสพติดได้ที่ใด

(1)[ ] ร้านขายของชำทั่วไป (2)[ ] มินิมาร์ท(3)[ ] แผงจำหน่ายชั่วคราว (4)[ ] ร้านอาหาร

(5)[ ] ผับหรือบาร์ (6)[ ] ห้างสรรพสินค้า (7)[ ] กับเพื่อนในชุมชน (8)[ ] แฟน

(9)[ ] ค้าเอง (10)[ ] อื่นๆ **โปรดระบุ**.....

ตอนที่ 3 ความรู้และการรับรู้เกี่ยวกับการเริ่มต้นใช้สารเสพติดหรือยาเสพติดครั้งแรก

คำแนะนำในการตอบ โปรดขีดเครื่องหมาย / สำหรับข้อความที่ท่านเลือก

ลำดับ	ข้อความ	ถูก	ผิด
1.	บุหรี่ หรือยาสูบ จัดเป็นสารเสพติดชนิดหนึ่งที่ถูกกฎหมาย		
2.	สุรา หรือเหล้า จัดเป็นสารเสพติดชนิดหนึ่งที่ถูกกฎหมาย		
3.	กัญชา จัดเป็นสารเสพติดชนิดหนึ่งผิดกฎหมาย		
4.	การใช้สารเสพติดประเภทบุหรี่ เหล้า และกัญชา เป็นครั้งคราวไม่สามารถทำให้ติดได้		
5.	การดื่มเหล้าทำให้เจริญอาหาร เลือดลมเดินสะดวก		
6.	การสูบบุหรี่ทำให้เกิดโรคมะเร็ง		
7.	การดื่มเหล้าทำให้เกิดโรคตับแข็ง และมะเร็งตับ		
8.	การสูบบุหรี่เป็นการนำร่องในการใช้ยาเสพติดอื่นที่รุนแรงกว่า		
9.	การดื่มเหล้าเป็นการนำร่องในการใช้ยาเสพติดอื่นที่รุนแรง		

ตอนที่ 4 ทัศนคติต่อการเริ่มต้นใช้สารเสพติดหรือยาเสพติดครั้งแรก

คำแนะนำในการตอบ โปรดขีดเครื่องหมาย / สำหรับข้อความที่ท่านเลือก

ลำดับ	ข้อความ	ระดับความเห็น				
		มากที่สุด	มาก	ปานกลาง	น้อย	ไม่เห็นด้วย
1.	การสูบบุหรี่นำไปสู่การใช้ยาเสพติดที่รุนแรงกว่า					
2.	การดื่มเหล้านำไปสู่การใช้ยาเสพติดที่รุนแรงกว่า					
3.	การสูบกัญชานำไปสู่การใช้ยาเสพติดที่รุนแรงกว่า					
4.	กัญชาเป็นยาเสพติดที่ไม่มีความรุนแรงต่อร่างกาย					
5.	สภาพครอบครัวที่แตกแยกเป็นสาเหตุสำคัญที่ทำให้คนติดยาเสพติด					
6.	การอบรมสั่งสอนของครอบครัวมีผลต่อการไม่ยุ่งเกี่ยวกับยาเสพติด					
7.	เด็กที่อยู่ในครอบครัวที่บิดามารดาหรือผู้ปกครองเอาใจใส่ดูแลจะทำให้ไม่ยุ่งเกี่ยวกับยาเสพติด					
8.	การมั่วสุมกับเพื่อนในสถานที่ต่างๆ จะทำให้ถูกชักนำให้สูบบุหรี่ ดื่มเหล้า และสุดท้ายจะติดยาเสพติดได้ง่าย					
9.	การทดลองสูบบุหรี่ ดื่มเหล้า เพราะความอยากรู้อยากเห็นเพียงครั้งเดียว จะนำไปสู่การใช้ยาเสพติดประเภทอื่น ๆ					

ลำดับ	ข้อความ	ระดับความเห็น				
		มากที่สุด	มาก	ปานกลาง	น้อย	ไม่เห็นด้วย
10.	การสูบบุหรี่ ดื่มเหล้าทำให้ลดความวิตกกังวล					
11.	บุหรี่ เหล้า จะทำให้กล้าพูด กล้าทำ กล้าแสดงออก					
12.	เหล้าจะทำให้กล้าพูด กล้าทำ					
13.	ท่านรู้สึกอับอายถ้าเพื่อนรักของท่านสูบบุหรี่					
14.	ท่านรู้สึกอับอายถ้าเพื่อนรักของท่านดื่มสุรา					
15.	ท่านรู้สึกไม่ชอบเมื่อมีคนสูบบุหรี่ในบริเวณที่ท่านอยู่					
16.	ท่านรู้สึกไม่ชอบเมื่อมีคนดื่มเหล้าในบริเวณที่ท่านอยู่					
17.	ท่านรู้สึกเสียใจมากเมื่อคนในครอบครัวของท่านสูบบุหรี่และดื่มเหล้า					
18.	ท่านไม่ชอบเพื่อนที่สูบบุหรี่					
19.	ท่านไม่ชอบเพื่อนที่ดื่มเหล้า					
20.	หากท่านปฏิเสธการสูบบุหรี่ หรือดื่มเหล้าตามคำชักชวน ท่านจะถูกขับออกจากกลุ่ม					

BIOGRAPHY

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